



 City of  
Carlsbad

# CARLSBAD

BUSINESS REPORT 2017

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# Executive Summary

In January of 2017, the City of Carlsbad's Economic Development Division commissioned BW Research to complete a business climate survey and update the Division's local business and industry cluster profiles. As part of the research almost four hundred businesses with at least one location in Carlsbad completed an interview.

BW Research offers the following key findings from the 2017 research of Carlsbad businesses:

## Most businesses indicated Carlsbad was an excellent or good place to do business.

Just under eight out of ten (79%) Carlsbad businesses surveyed indicated the city was an excellent (32%) or good (47%) place to do business. At the other end of the spectrum, five percent of responding businesses indicated that Carlsbad was either a poor (3%) or very poor (2%) place to do business.

## Businesses were more optimistic than negative about the future

Just over one fourth (27%) of responding businesses indicated the business climate in Carlsbad was getting better and nine percent indicated it was getting worse. This ratio of three businesses indicating the City's business climate is improving to one that states it is getting worse is a valuable metric of the local business environment. Those indicating the business climate was getting worse increased by 4% compared to the 2014 results.

## Almost two out of three Carlsbad businesses were confident on city government's decisions to improve the business climate.

Sixty four percent of Carlsbad business respondents indicated they were either very (16%) or somewhat (48%) confident in city government to make decisions to positively affect the local business climate.

## Access to clients and customers and quality of local streets and roads are the greatest areas of satisfaction; regulatory climate and ability to find qualified entry to mid-level employees are areas of greatest dissatisfaction.

The three issues tested with the highest levels of satisfaction included access to clients and customers (73% satisfaction), quality of local streets and roads (72% satisfaction), and access to relevant vendors and suppliers (71% satisfaction).



The three issues tested with the highest levels of dissatisfaction included regulatory climate (22% dissatisfaction), ability to find qualified entry to mid-level employees (17% dissatisfaction), and quality of local streets and roads (16% dissatisfaction).

## Conclusions and Recommendations

Results of the 2017 survey indicate an overall decrease in positive ratings and an increase in negative ratings compared to previous years. Nonetheless, **eight out of ten** businesses indicated Carlsbad was an excellent or good place to do business and nearly two out of three Carlsbad businesses were confident in city government's decisions to positively impact the business climate.

### STRENGTHS OF CARLSBAD BUSINESS COMMUNITY

The City boasts a concentration of export-oriented, innovation driven businesses in key industry clusters including Action Sports, Life Sciences, Cleantech, and ICT (Information and Communications Technologies). The employers in these four Carlsbad industry clusters tend to be larger businesses with wages well above the local and regional average. These businesses not only provide high wages, they generate a considerable multiplier effect on local employment and tax revenue. Any strategies that increase local employment in these high-paying industry clusters is likely to have a significant multiplier effect on businesses throughout the Carlsbad economy. Hospitality is an important element of Carlsbad's economy and contributes to the strength of a diverse local economy.

Table 1: Local Industry Clusters<sup>1</sup>

Industry Cluster	2016 jobs	2014-2016 % change	Number of Business Locations	LQ*	Local Average earnings	National Average Earnings
<b>1. Action sports manufacturing</b>	2,394	-2.8%	16	45.96	\$114,955	\$70,354
<b>2. Life Sciences</b>	4,976	-7.1%	69	5.43	\$132,786	\$110,991
<b>3. Cleantech</b>	623	-24%	26	4.58	\$145,068	\$122,508
<b>4. ICT</b>	7,627	-2.5%	261	3.59	\$137,704	\$124,758
<b>5. Hospitality and Tourism</b>	13,331	7.4%	353	1.68	\$29,949	\$28,380

\* Location quotient (LQ) or regional concentration is a way of quantifying how concentrated a particular industry or industry cluster is in a region, as compared to the national average. A LQ=2 reveals that the

<sup>1</sup> EMSI QCEW and non-QCEW Employment 2017.2

regional number of jobs for a particular industry cluster is twice as high (or 100% above) as the national average.

## 2017 WHAT WE LEARNED

1. Larger firms (25 + employees) were more satisfied with the City's Business Climate than medium-sized (6 to 24 employee) firms and were most likely to indicate they would increase employment at their Carlsbad location.

This finding is important because it is not typical, small and medium sized firms are generally more likely to indicate expansion compared to larger firms. Medium-sized firms (6 to 24 employees) have rated Carlsbad's business climate lower than small or large firms in both 2014 and the 2017.

2. Over half of Carlsbad businesses indicated that their primary customers are found nationally (within the United States, but outside of California) or internationally (outside the United States).

These results are not typical of local business communities, which tend to be more focused on local customers. They indicate the importance of Carlsbad's export-oriented businesses. Even though the research shows that four of Carlsbad's export-oriented industry clusters (ICT, Action Sports, Life Science and Cleantech) have experienced a decline in employment from 2014 to 2016, the City's businesses are still focused on export-oriented markets.

3. Access to clients and customers was a strength of the City's business climate (73% satisfaction) while the ability to find qualified entry and mid-level employees is an area with generally lower satisfaction (52% satisfaction).

The ability to find and connect with customers is a valuable commodity for Carlsbad businesses and one they are generally satisfied with. At the other end of the spectrum, businesses are less satisfied about their ability to hire qualified entry and mid-level workers. It is worth noting that issues related to regulatory climate and even access to capital (to a lesser degree) are more likely to have lower levels of satisfaction among local businesses.

4. Tourism & Hospitality, was the only Carlsbad industry cluster, of the named five clusters, that saw an increase in employment from 2014 to 2016, but there were some other bright spots in the Carlsbad's industry cluster assessment.

Information Technology and Analytical Instruments<sup>2</sup> has 2,857 jobs in Carlsbad, 439% above the national average and has seen a 7.2% increase in employment from 2014 to 2016. Action Sports manufacturing decreased in employment from 2014 to 2016 due to a 12% decrease in employment in the Sporting and Recreational Goods and Supplies Merchant Wholesalers (NAICS 423910). However Sporting and Athletic Goods Manufacturing (NAICS 339920) increased in employment by 3% from 2014 to 2016.

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<sup>2</sup> This cluster includes the NAICS codes 334118, 334310, 334413, 334418, 334419, 334510, 334512, 334513, 334515, 334516, 334517, 334519, 511210

## CHANGES FROM THE 2014 SURVEY

More medium-sized firms (6 to 24 employees) were surveyed in 2017 (24.6%) compared to 2014 (19.1%), this may have impacted the overall business satisfaction results. The results from both 2017 and 2014 surveys demonstrate that medium-size businesses were *less likely* to rate the City of Carlsbad as an “excellent” place to do business (26.2% and 33.3%, respectively) compared to small businesses (38.9% and 50%, respectively). Thus, this change in the surveyed business composition may explain some of the decline in positive ratings for the City in 2017 compared to 2014.

Additionally, a higher percentage of 2017 respondents were residents (64.9%) compared to 2014 (62.7%). Overall, both in 2017 and 2014 fewer residents rated the City of Carlsbad positively (“good” or “excellent” place to do business) (81.6% in 2017 and 85.7% in 2014) as compared to *non-residents* (83.0% in 2017 and 89.3% in 2014) and more residents in 2017 rated the City as “fair” (14.3%) compared to non-residents (11.4%). This may provide some explanation for the lower ratings for the City of Carlsbad in 2017.

## CHANGES IN METHODOLOGY

As part of the research process the Economic Development Division and BW Research (the project team) reviewed the data sources and methodology that have been used in previous studies (2012 and 2014) to determine employment and establishment metrics for each of Carlsbad’s key industry clusters. After careful examination and consideration, the Economic Development Division staff and BW Research agreed that an updated methodology should be used for the 2017 study and moving forward to measure and report Carlsbad Industry Cluster establishment metrics.

### Industry Cluster Definition

Since 2014, there has been an update to the North American Industry Classification System (NAICS). As such, the definition and NAICS used for each industry cluster changed in 2017 to reflect the update. To avoid overcounting, for those NAICS that were included in more than one industry cluster, percentages were applied so that only a portion of jobs within the specific NAICS are accounted for in each industry cluster (table 4). The percentages used reflect what has been previously done by SANDAG.

### Business Establishments

In previous studies (2012 and 2014), the project team built and updated a database of businesses for each industry cluster within the City of Carlsbad. The database started with firms that were identified within a given NAICS code, but would then be appended to include firms that staff indicated should be included in each industry cluster database, but were not defined within the given NAICS definition. For the 2017 business climate research, the project team revised that approach so that the database and establishment counts were based purely on NAICS definitions and would **only** count unique businesses and not every address they have within Carlsbad. This was agreed upon to better align Carlsbad’s industry cluster reporting with processes used by SANDAG and similar regional organizations, as well as provide a process that is more replicable from year to year and to allow comparability with other regions or localities. While the new



methodology will be consistent with other organizations and improve comparability, it will be a considerable change from previous studies and will limit the ability to currently compare industry cluster results over time.

# Overall Indicators for the Business Community

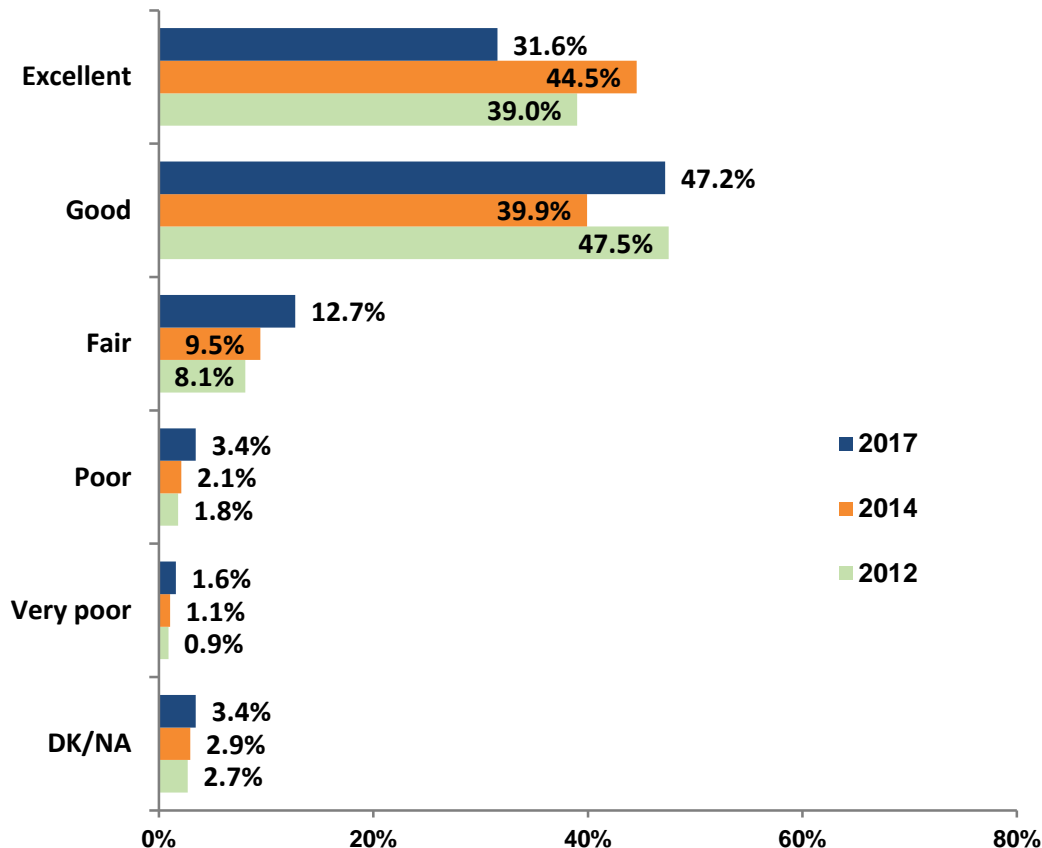
BW Research surveyed 394 established Carlsbad businesses. The key results are presented below.

## CARLSBAD AS A PLACE TO DO BUSINESS

Nearly eight out of ten Carlsbad businesses surveyed (79%) provided a positive rating for the City of Carlsbad as a place to do business, with 32% rating it as “excellent” and 47% “good.” Thirteen percent of businesses rated the city as “fair”, five percent rated as poor (3% “poor” and 2% “very poor”), and three percent were not sure or declined to respond.

Compared to the average ratings from Carlsbad’s two previous business surveys (2012 and 2014), positive ratings for the City in 2017 declined by 7%, negative ratings increased by 2%, and those who rated the city “fair” increased by 4%.

Figure 1: Rating for the City of Carlsbad as a Place to Do Business



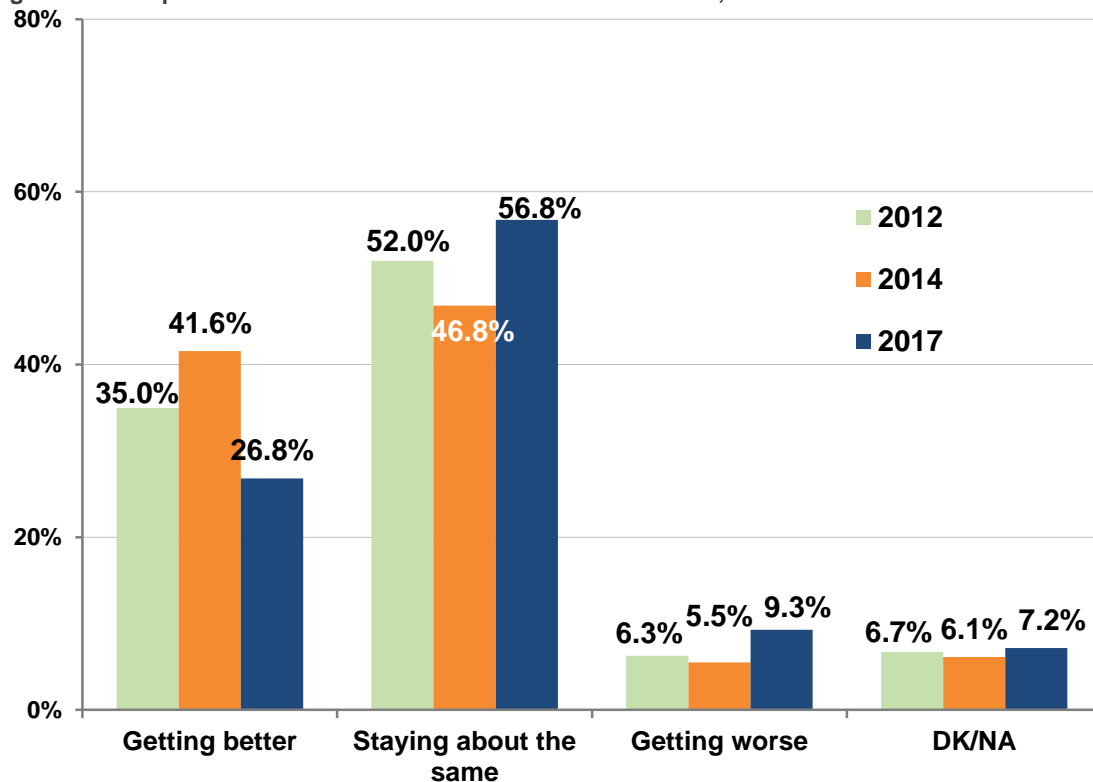
- Firms that have grown or maintained the same number of employees in the past three years (35% and 36%, respectively) are more likely to rate Carlsbad as an “excellent” place to do business, compared to those companies that have declined in the past three years (17%).
- Firms that are confident in the city government to make decisions that positively affect the local business climate are much more likely to rate the city of Carlsbad as an “excellent” place to do business (72%) compared to those who are “somewhat confident” (32%), “somewhat unconfident” (16%), and “very unconfident” (9%).
- Small firms (1 to 5 employees) were more likely to rate the City’s business climate as “excellent” (38.9%), compared to medium-size firms (6 to 24 employees) (26.2%).

## PERCEPTIONS OF THE BUSINESS CLIMATE

Approximately 27% of businesses surveyed perceive the business climate in Carlsbad as “getting better” and 57% feel it is “staying about the same.” About 9% view the business climate in the city as “getting worse” and 7% of respondents were not sure or declined to provide a response to the question.

Compared to the average of the previous years (2012 and 2014), fewer businesses in Carlsbad in 2017 believe the business climate is getting better in Carlsbad (11.5% decrease) and more businesses believe it is getting worse (3.4% increase).

Figure 2: Perception of Business Climate in Carlsbad Over Time, 2012-2017



- Firms in the in the Hospitality and Tourism cluster (32%) were more likely to say the business climate in Carlsbad is getting better compared to ICT firms (12%). \*
- Firms that reported an expected increase in the number of employees in the next 12 months are more likely to indicate the business climate in Carlsbad is getting better (46%), as compared to those that expect to maintain their number of employees (23%).
- Firms that are “very confident” in the city government to make decisions that positively affect the local business climate are much more likely believe the city’s business climate is getting better (49%) as opposed to those that are “somewhat unconfident” (17%) and “very unconfident” (6%).

**\*For all individual industry cluster survey response analyses throughout this report:** Although the survey sampling plan included a focus on firms in the five specialized industry clusters, the sample sizes within each of the five specialized industry clusters were less than 25 respondents – which is the minimum for assuming a normal distribution. As such, **caution** should be utilized when generalizing the results for the five industry clusters. Overall, the sample size for each of the five industry clusters was: Hospitality and Tourism n=24; Action Sports: 6; Life Sciences n=4 and Medical Devices n=3; ICT n=19; Cleantech n=0).

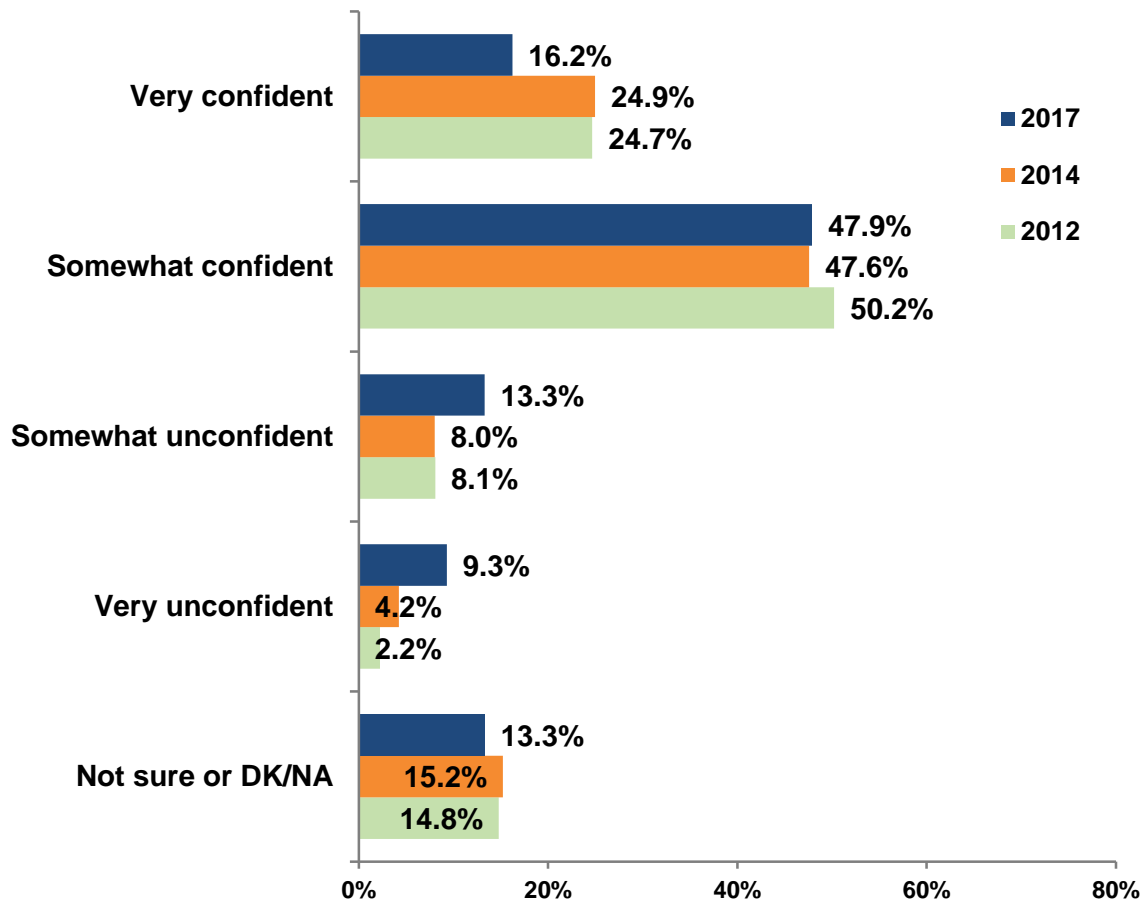
For the specific question presented above (perception of business climate), the number of respondents within each industry cluster was the following: Hospitality and Tourism n= 22, Action Sports Manufacturing n= 6, Life Sciences n= 4 and Medical Devices = 3, ICT n= 17, and Cleantech = 0.

## CONFIDENCE IN CITY GOVERNMENT TO IMPACT THE BUSINESS CLIMATE

Nearly two thirds (64%) of businesses surveyed indicated they are confident in Carlsbad city government to make decisions that positively affect the local business climate, with 16% “very confident” and 48% “somewhat confident.” Nearly one fourth of respondents (23%) reported they are not confident in Carlsbad city government to positively impact the business climate and 13% were not sure or declined to state.

Just like with previous ratings, confidence in city government declined as compared with 2012 and 2014. Overall confidence decreased by nearly 9% and “unconfident” ratings increased by 11% in 2017, compared with the averages from 2012-2014.

Figure 3: Confidence in City Government to Impact Business Climate, 2012-2016



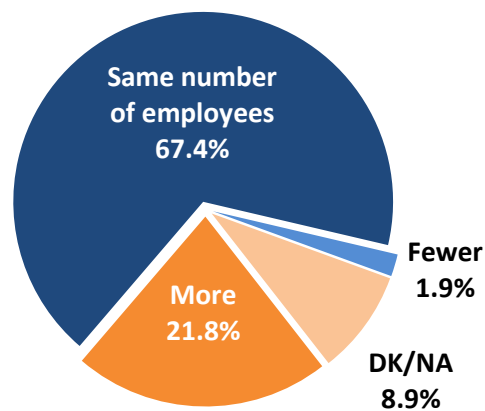


- Firms with 1 to 5 employees are more likely to be “very confident” in the city government to positively impact the business climate in Carlsbad overtime (23%), than firms with 6 to 10 employees (10%).
- Business that have maintained the same number of employees in the past three years were more likely to be “very confident” in the city government to positively affect the business climate (25%) than those businesses that have grown (10%) or declined (8%) in the past three years.

### HIRING EXPECTATIONS OVER THE NEXT YEAR

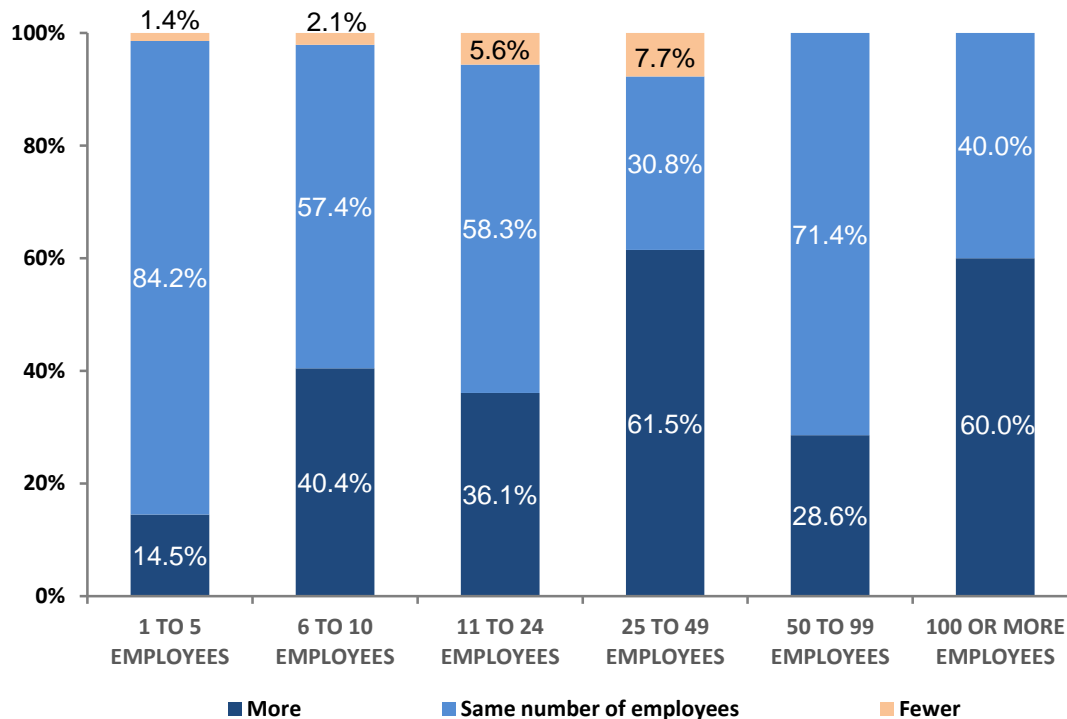
Most businesses (67.4%) expect to maintain the same number of employees 12 months from now and a little over one-fifth of businesses (21.8%) expect to have **more** workers at their Carlsbad location(s) 12 months from the time of the survey, compared with the 29.7% who reported growth over the last three years. Nonetheless, based on survey responses, the total number of employees within existing Carlsbad businesses is expected to decrease by 1.1% 12 months from the time of the survey.

Figure 4: Hiring Expectations for the Next 12 Months



The graph below illustrates the hiring expectations over the next 12 months by company size (e.g. number of employees). A higher percentage of companies that have 25 to 49 employees (62%) and 100 and more employees (60%) expect to have more employees at their Carlsbad location(s), compared to only 14.5% of small businesses with 1 to 5 employees.

Figure 5: Hiring Expectations for the Next 12 Months by Business Size



- Firms that have been located in Carlsbad from 2 to 5 years were more likely to indicate they expect to have more employees in the next 12 months (39%) than firms that have been located in Carlsbad between 10 and 20 years (16%) and 0 to 1 year (17%).
- Firms with 1 to 5 employees were less likely to report they expect to have more employees in the next 12 months (15%) compared to firms with 25 to 49 employees (62%) and firms with 100 or more employees (60%). If we categorize the firms into small (1 to 5 employees), medium (6 to 24 employees), and large (25+ employees), then large firms are more likely to expect growth (52%) compared to small firms (14.5%).
- Firms that have increased their number of employees in the past three years were much more likely to state they expect to have more employees in the next 12 months (48%) compared with firms that have remained the same (12%) or declined (21%) in the past three years.

# Opportunity & Assessment in Carlsbad's Business Community

This section of the research summarizes Carlsbad businesses' responses to questions that evaluated opportunities in Carlsbad and provided an assessment of specific components of the Carlsbad's business community.

## PROFILE OF COMPANIES SURVEYED

The majority of companies (67.7%) surveyed have 1 to 5 employees and haven't been in Carlsbad for 10 years or more (50.3%). Eight out of ten surveyed firms have been in Carlsbad for at least 5 years.

Figure 6: Size of the Surveyed Companies by Employment

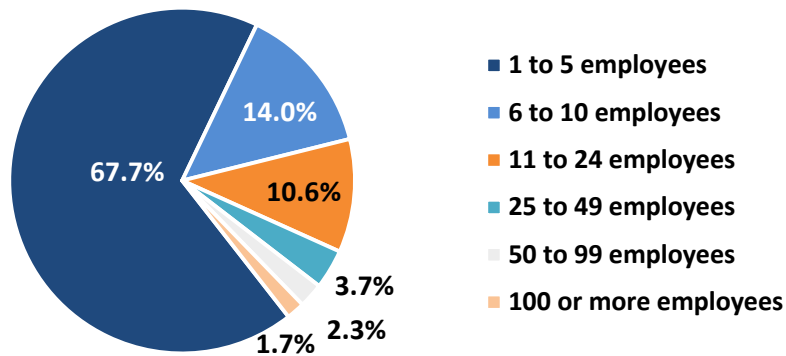
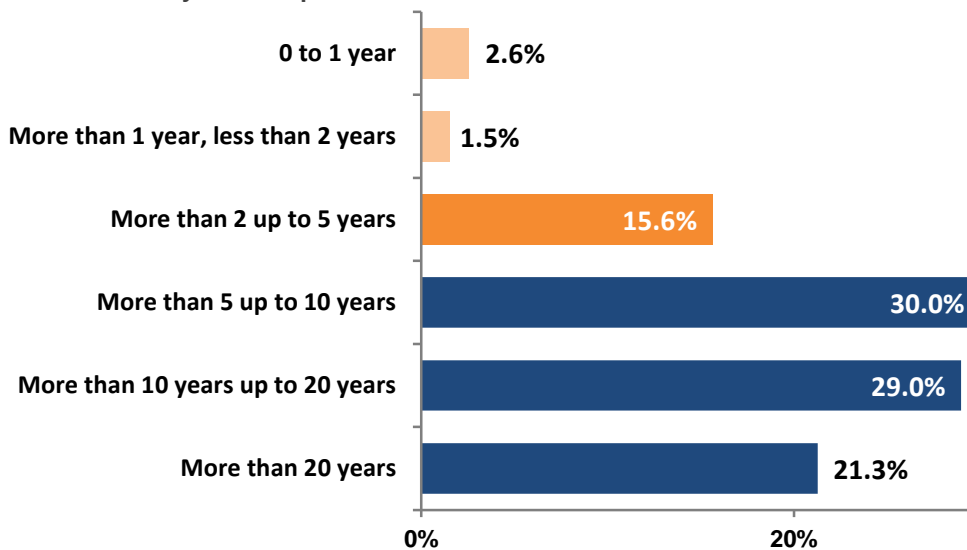


Figure 7: Number of years companies have had a location in Carlsbad



## MAIN INDUSTRIES REPRESENTED BY SURVEYED COMPANIES

Surveyed companies were asked about what industry or industries best described the work they were involved or connected to. This was the first year this question was asked. Professional or business services, retail or wholesale trade, finance, insurance, real estate, and property management, and healthcare represented the majority (66%) of the surveyed businesses.

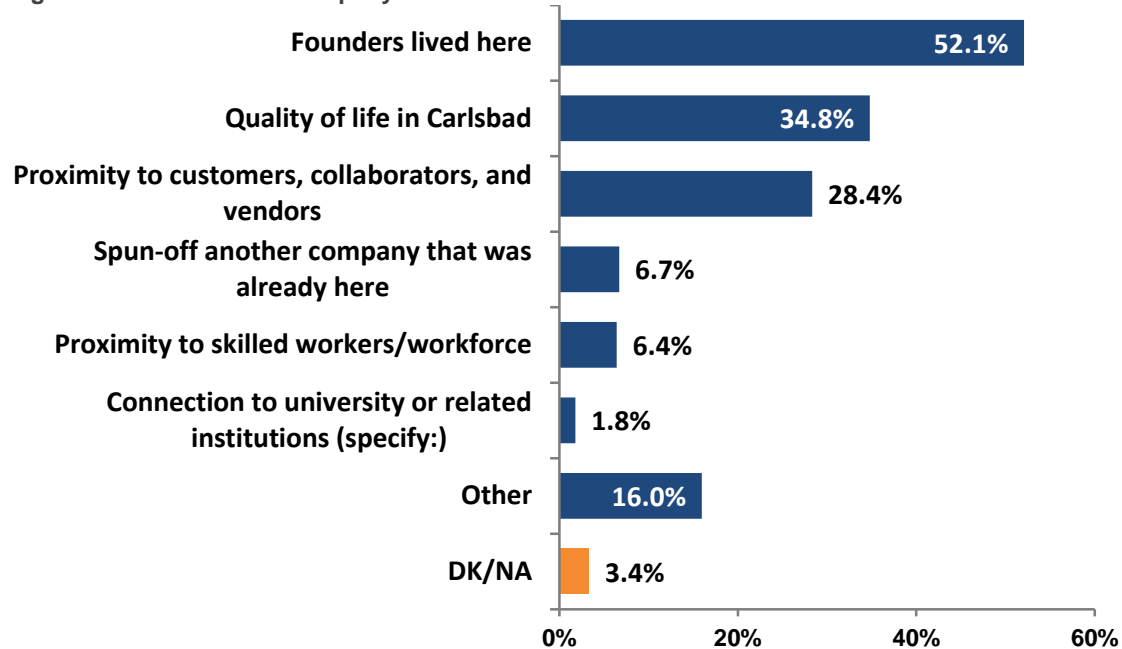
Figure 8: Main Industries represented by the Surveyed Companies



## MAIN REASONS COMPANY LOCATED IN CARLSBAD

Early in the survey, respondents were asked to provide the main reasons their business is located in Carlsbad. As shown in the figure below, having founders living in Carlsbad (52%), the quality of life in Carlsbad (35%), and proximity to customers, collaborators, and vendors (28%) were the top reasons for locating within the City of Carlsbad. Compared to 2014, the proximity to customers, collaborators, and vendors went from being the top reason to the third most highly ranked.

Figure 9: Main Reasons Company Located in Carlsbad



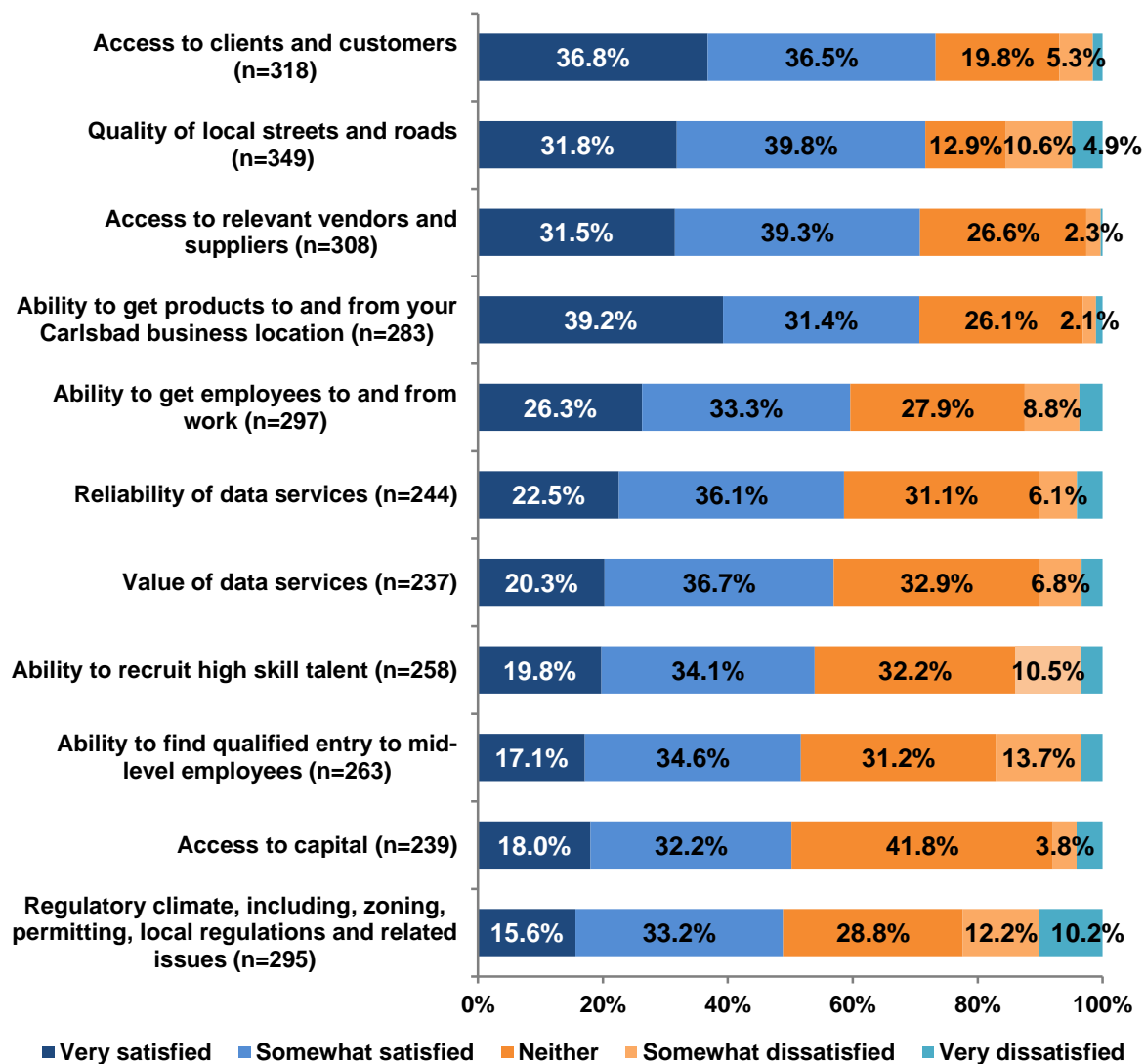
- Locating in Carlsbad because the founders lived here was more likely among firms with one to five employees and that have been in Carlsbad for 5 to 10 years (62% and 59%, respectively).
- Locating in Carlsbad due to its proximity to customer, collaborators, and vendors was more likely among firms that have been in Carlsbad for 1 to 2 years (67%) and that expect to grow in the next 12 months (20%).
- Locating in Carlsbad due to the quality of life in Carlsbad was more likely among firms with 100 and more employees (60%) and that have been in Carlsbad for over 20 years (7%).



## SATISFACTION WITH SPECIFIC COMPONENTS OF THE BUSINESS CLIMATE

After respondents were asked their overall assessment of the city's business climate, they were asked about their **satisfaction** with specific components of the city's business climate. Access to clients and customers (73%) and quality of local streets and roads (72%) provided the highest level of satisfaction and the regulatory climate (22%) and the ability to find qualified entry to mid-level employees (17%) the highest levels of dissatisfaction.

Figure 10: Satisfaction with Attributes of Carlsbad's Business Climate <sup>3</sup>

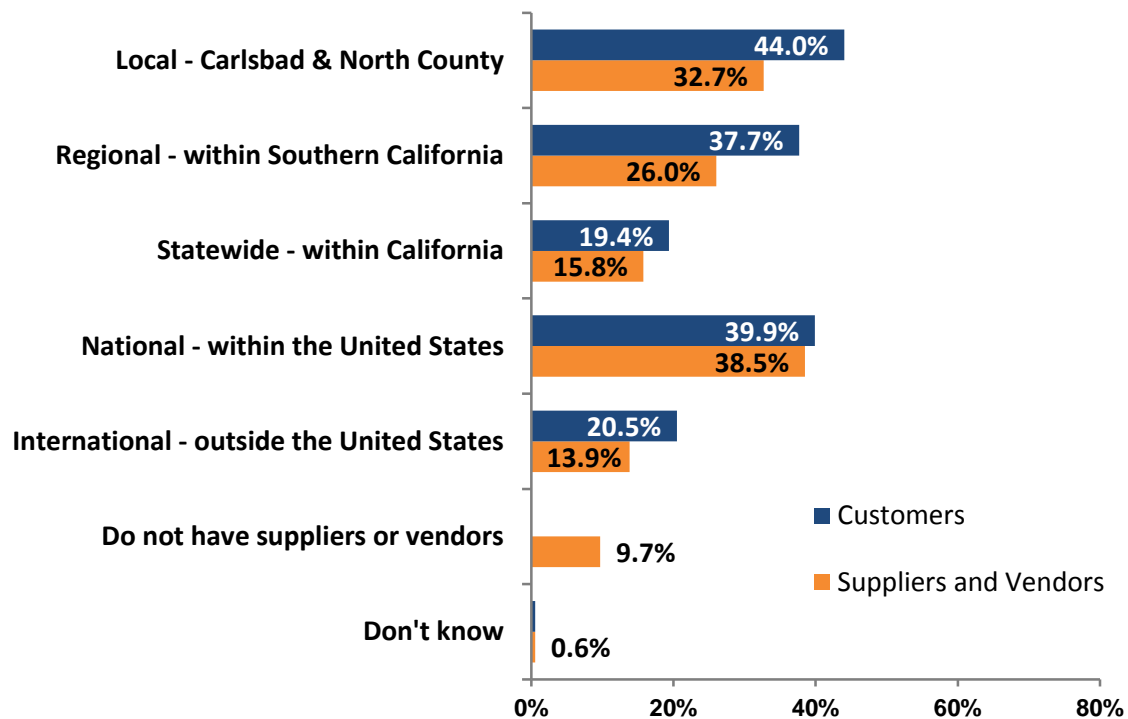


<sup>3</sup> Due to higher than average percentages of "Don't know/ no answer" responses for many items, those responses were filtered out of the analysis for this series. The high percentages are likely due to lack of direct experience with those services (please refer to Appendix C for full breakdown of responses).

## DISTRIBUTION OF CUSTOMERS AND SUPPLIERS & VENDORS

Respondents were asked where their customers were primarily found, as well as their suppliers and vendors. A little less than half of businesses (44%) see their primary customers as local and one fifth of respondents (20.5%) indicated that their primary customers are outside the United States. Regarding the suppliers and vendors, the largest portion of suppliers and vendors (38.5%) comes from within the United States. Please note that respondents were allowed to indicate more than one primary area for customers or suppliers and vendors so the total percentage will be more than 100 percent.

Figure 11: Location of Customers and Suppliers & Vendors



- Close to two thirds (60%) of firms with 6 to 10 employees identified their primary customers as local compared to 29% of firms with 50 to 99 employees.
- Although a small sample size, Action Sports cluster firms see 80% of their primary customers as being regional (within Southern California) compared to 31% of ICT firms.
- Companies that reported expecting to grow in the next 12 months see 54% of their customers as local, compared to 40% of firms that expect the same number of employees.
- Companies that have been in Carlsbad for over 20 years see 31% of their suppliers and vendors being in South California compared to 11% of companies that have been in Carlsbad for 5 to 10 years.
- Sixty five percent of Hospitality firms reported that their primary suppliers and vendors were local compared to just seven percent of ICT firms and twenty five percent of Life Sciences.



# Industry Clusters

In addition to the primary survey data that was presented above, this section provides secondary data to describe Carlsbad's key industry clusters and the overall economy.

## CARLSBAD KEY INDUSTRY CLUSTERS

Industry clusters represent a comprehensive way of identifying and evaluating related industries within a given area. The process of identifying and examining clusters is based not only on the goods and services that employers are engaged in, but also on the economic relationships that exist between vendors, suppliers, and customers who are using related products and services. The firms within an industry cluster typically share common needs for talent, human capital, technology, and infrastructure.

Most **industry clusters are export-oriented** driving wealth creation by bringing in customers and revenue from outside the region, rather than being limited to those customers that just live within the area. The emphasis on export-oriented clusters not only expands the universe of potential customers, but also diversifies the economy and provides greater opportunity for growth while hedging against regional economic decline when population-serving industries are negatively impacted. Lastly and potentially most important, the growth in industry clusters will typically have a large multiplier effect, increasing employment and business opportunities for all types of businesses within a given community region.

According to the San Diego Association of Governments' (SANDAG) March 2016 report: [Traded Industry Clusters in the San Diego Region: 2016 Data Update](#).<sup>4</sup>

"Traded industry clusters are groups of interrelated, export-oriented industries that bring new money into the region. Industries within an industry cluster have business transactions with one another, and thus are interdependent. Cluster companies often participate in local industry associations, fostering collaboration and the exchange of knowledge. Companies within a cluster also compete with each other for market share, which drives innovation and productivity."

"Companies within clusters tend to be among the region's leaders in research and development funding, patent awards, and other key indicators of innovation. Many of the clusters also pay high wages, although some do not. All clusters are economic drivers for the region because they are export-oriented."

"San Diego's regional traded clusters were first identified as a result of the 1998 Regional Economic Prosperity Strategy (REPS), which was developed to address the recession and economic restructuring of the early 1990s. Originally, the clusters were determined by a committee of local industry and economics experts. The current method relies both upon committee input and a methodology based on sound principles and practices that can be replicated for other regions, minimizing the subjectivity of the committee-based approach."

"Industry clusters are different from traditional sector employment because the clusters focus on specialized industries as well as buyer and supplier linkages that are unique to a region's economy. Viewing the regional economy through the perspective of clusters is important when describing the fast-paced, international economy of today. Elected officials, planners, and local residents want information about biotechnology and cleantech, for example. It is not possible to obtain this level of detail using traditional industry sector reporting."

"Industry cluster analysis is a useful tool to look deeply at the structure of the economy and help determine what direction it will take in the future. As technology and industries change, new cluster groups may come into existence."

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<sup>4</sup> Excerpted from page 6: [Traded Industry Clusters in the San Diego Region: 2016 Data Update](#), SANDAG, March 2016.



SANDAG focused on 13 industry clusters in its latest report. Among those, six clusters are most relevant to the City of Carlsbad as they either already have a relatively high concentration of employment within Carlsbad or they offer an industry that has the opportunity to see considerable growth within the next three to ten years. The industry clusters relevant to the City of Carlsbad, include;

1. **Action Sports Manufacturing cluster** includes firms that are engaged in the design and production of golf club, surfboard, diving, and other recreational goods as well as the apparel and accessories that are closely tied to these products.
2. **Life Sciences cluster** combines two of SANDAG's industry clusters, *Biomedical Devices and Products* which includes the research, design, and production of medical devices and *Biotechnology and Pharmaceuticals* which includes research and development related to biological technologies as well as the manufacturing of medicinal and diagnostic substances.
3. **Cleantech cluster** includes firms that are engaged in renewable energy, energy efficiency, and energy storage.
4. **Hospitality & Tourism cluster** (SANDAG's *Entertainment & Hospitality*) includes hotels, transportation services, and restaurants, as well as entertainment attractions such as theme parks (LEGOLAND), golf courses, and country clubs.
5. **Information, Communications, & Technologies (ICT) cluster** includes communications, computer and electronics, and software industries.

It should be noted that each of the industry cluster definitions are generally consistent with SANDAG; a few minor revisions and additions were made after reviewing the database of employers with the City of Carlsbad. In addition, some NAICS are included in multiple industry clusters and to avoid double or triple job counting, percentages were implemented (see table 4 in appendix B).

Carlsbad's five industry clusters represent over **36 percent** of all jobs in the city. These clusters provide average annual earnings per worker of **\$112,092**, which is 47% higher than the city's average earnings per worker of \$76,282.

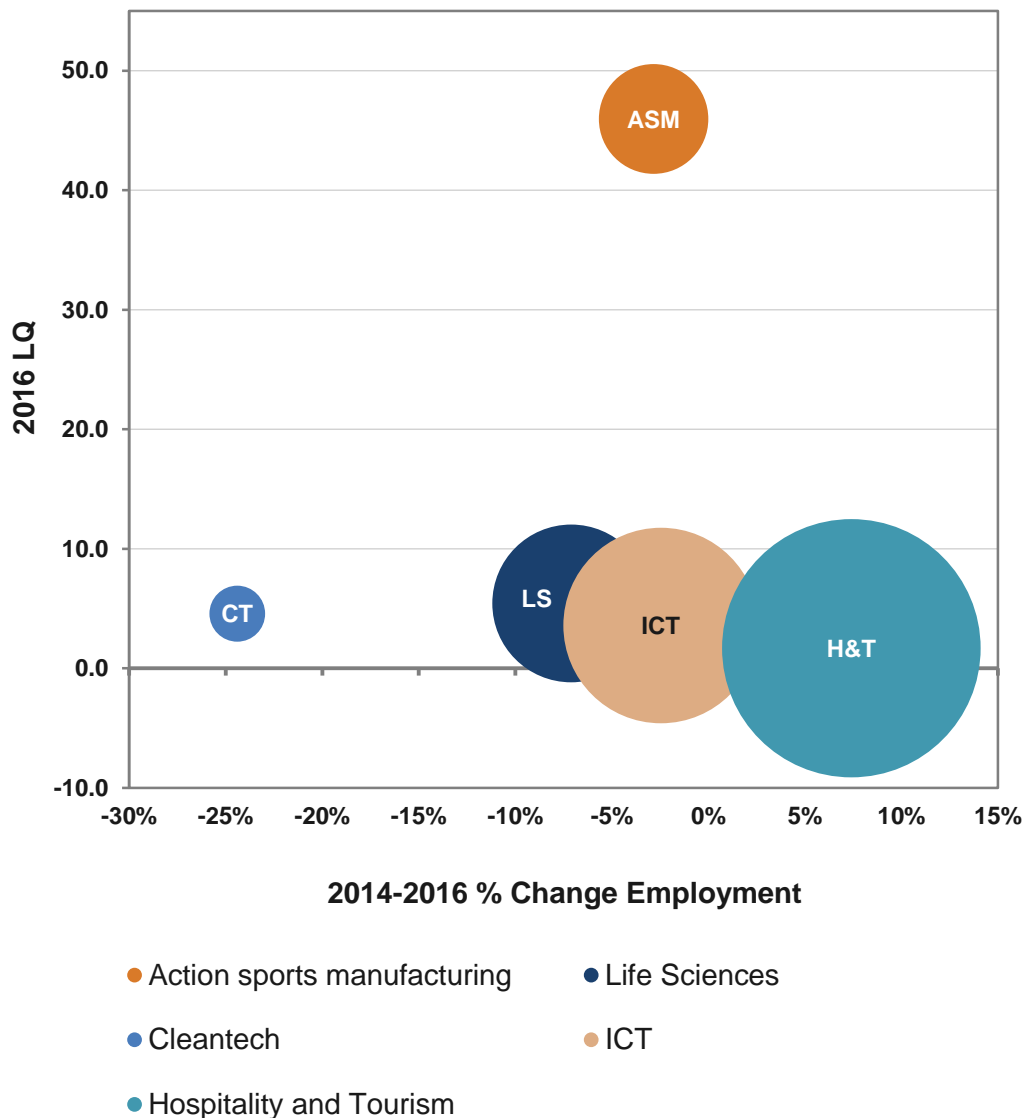
The figure on the following page shows the key industry clusters and their employment change over the past two years (2014 to 2016). The size of the bubbles indicates relative size based on the number of jobs for each cluster. The Hospitality & Tourism cluster is the largest clusters with 13,331 employees in the City of Carlsbad.

The cluster share of local employment compared to its share of national employment (regional concentration) is measured on the vertical axis by its *location quotient* (LQ). A LQ of 1.0 indicates that the industry cluster in the region provides the same number of jobs as the national average for that particular industry cluster. The Action Sports Manufacturing cluster has the largest LQ with 45.96, which means that it is nearly 46

times more concentrated in the City of Carlsbad (or 4,496% above) than in the country. All five industry clusters have a LQ greater than 1.0, meaning that the number of jobs in Carlsbad for each of the clusters is higher than the national average for that specific cluster.

Finally, the horizontal axis displays the employment change for the past two years between 2014 and 2016. Employment growth was only seen in Hospitality and Tourism, with the other four clusters experiencing a decline (Action Sports Manufacturing: -2.8%; Life Sciences: -7.1%; Cleantech: -24.4%; and ICT: -2.5%).

Figure 12: City of Carlsbad Industry Clusters by Employment, Location Quotient (LQ) and Growth<sup>5</sup>



<sup>5</sup> Source: EMSI QCEW and non-QCEW Employment 2017.2

## ACTION SPORTS MANUFACTURING

Action Sports Manufacturing provides 2,394 jobs in Carlsbad, a 2.8% decline since 2014. The industry's regional concentration is 45.96, meaning that the number of jobs in the region for this industry is nearly 46 times higher than the national average for the same industry cluster. In Carlsbad, there are **16 firms**<sup>6</sup> in this industry cluster with average earnings per job of \$114,955 in 2016, higher than the national average of \$70,354. Total sales for the region in 2016 were over \$1 billion and 99% of these sales were exported to other regions. Lastly, total gross regional product generated by this industry cluster was over \$469 million.

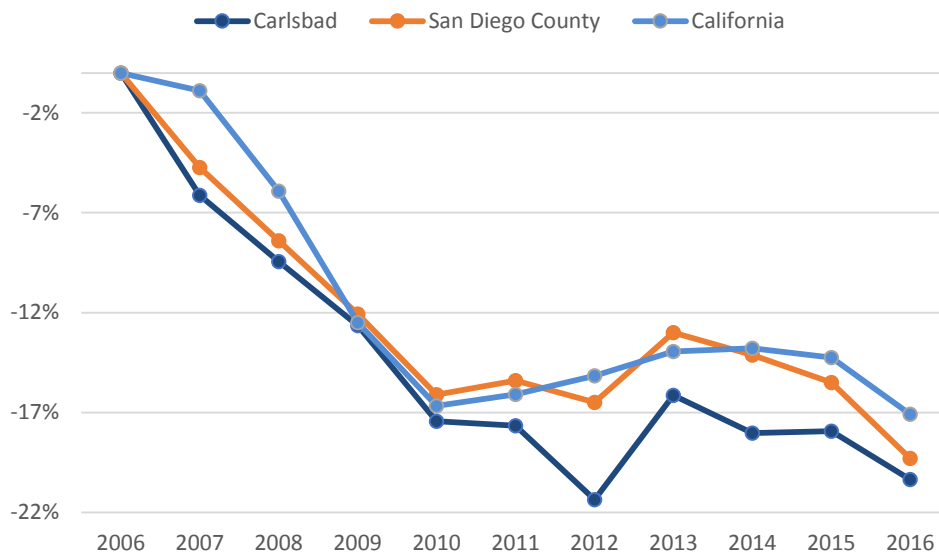
ACTION SPORTS MANUFACTURING <sup>7</sup>		
This cluster includes firms that are engaged in the design and production of recreational equipment, from golf clubs to surfboards, as well as the apparel and accessories that are closely tied to these products.		
<b><u>2016 Employment:</u></b> 2,394	<b><u>Current Establishments:</u></b> 16	<b><u>Change over the Last 2 Years:</u></b> A 2.8% employment decline from 2014 through 2016
<b><u>Average Earnings:</u></b> \$114,955	<b><u>Industry Concentration:</u></b> Employment in Carlsbad is 45.96 times the national average	

As seen in the figure below, Action Sports Manufacturing jobs have been declining since 2006 in the City of Carlsbad, San Diego County, and state. Nonetheless, Carlsbad still has a significantly higher concentration of jobs (45.96) as compared to San Diego County (4.03), the state of California (1.24) and the nation. To note that this industry cluster has decreased in employment from 2014 to 2016 due to Sporting and Recreational Goods and Supplies Merchant Wholesalers (NAICS 423910) employment which has decreased by 12%. Sporting and Athletic Goods Manufacturing (NAICS 339920), on the other hand, has increased employment by 3% from 2014 to 2016 in the City of Carlsbad.

<sup>6</sup> Data source: InfoUSA

<sup>7</sup> For the following industry cluster tables in this section (5 tables), change over the last two years for each industry cluster can be compared to overall economic growth (1.8%) in Carlsbad from 2014-2016 (Source: EMSI QCEW and non-QCEW employment 2017.2). The source for the total number of establishments is InfoUSA.

Figure 13: Action Sports Manufacturing Employment % Change Overtime



With a high concentration of golf club, surfboard, diving, and other recreational goods manufacturing in the region, it is clear that this industry is a highly export-oriented economic driver. This cluster also is strongly associated with sporting and recreational goods wholesalers.

Based on the vast amounts of sunshine, close proximity to the ocean, and the lifestyle of southern California, the Action Sports Manufacturing cluster has been a steady presence in the region.

Excerpted from page 3: *Traded Industry Clusters in the San Diego Region*, SANDAG, December 2012

## LIFE SCIENCES

For our purposes, two of SANDAG's clusters – Biomedical Devices and Products & Biotechnology and Pharmaceuticals – have been combined into Life Sciences for examination in the City of Carlsbad. The Life Sciences cluster has approximately **69 firms<sup>8</sup>** and **4,976 jobs** in Carlsbad in 2016, a **7.1% decline** from 2014. The industry's regional concentration in Carlsbad is 5.43, meaning that the number of Life Sciences jobs is 5 times higher than the national average for the same industry cluster (or 443% above the national average). The average earnings per job in the Life Sciences cluster is approximately \$132,786 in Carlsbad, which is above the national average of \$110,991. Total sales in 2016 were \$2.27 billion and 96% of these sales were exported to a different region. Lastly, total gross regional product generated by this industry cluster was \$1.17 billion.

<sup>8</sup> Data source: City of Carlsbad Business License List.

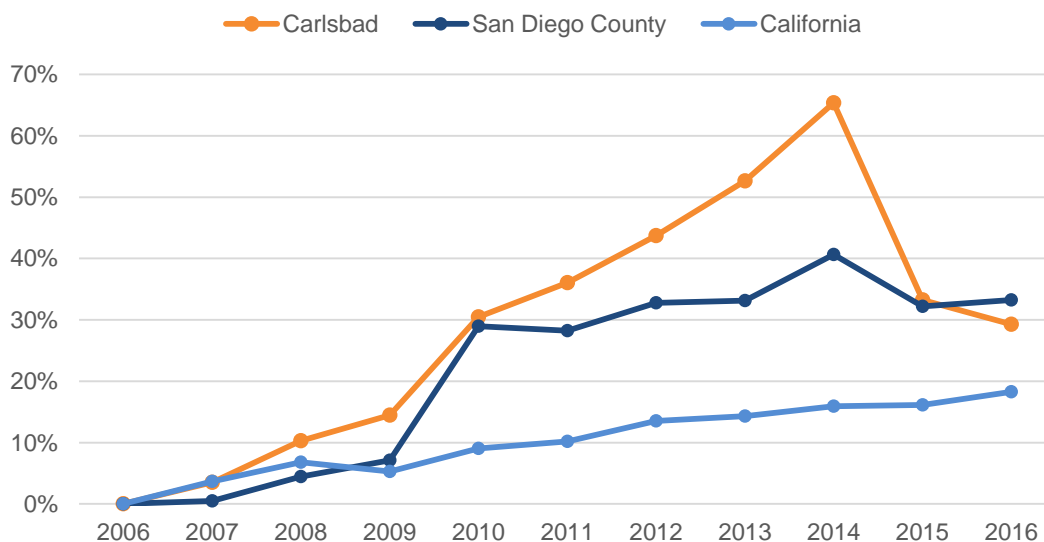
## Life Sciences

This cluster combines two of SANDAG's industry clusters, *Biomedical Devices and Products* which includes the research, design, and production of medical devices and *Biotechnology and Pharmaceuticals* which includes research and development related to biological technologies as well as the manufacturing of medicinal and diagnostic substances.

<b><u>2016 Employment:</u></b> 4,976	<b><u>Current Establishments:</u></b> 69	<b><u>Change over the Last 2 Years:</u></b> A 7.1% decline in employment from 2014 to 2016 in Carlsbad
<b><u>Average Earnings:</u></b> \$132,786	<b><u>Industry Concentration:</u></b> Employment in Carlsbad is 5.43 times the national average	

Although this industry cluster saw employment levels decline by 7.1% from 2014 to 2016, in the past 10 years employment in this industry cluster increased by 30% in the City of Carlsbad. Compared to the state, Carlsbad has seen a more significant growth since 2006 (Figure 14).

Figure 14: Life Sciences Employment % Change Overtime





### ***Biomedical Devices and Products***

The Biomedical Devices and Products industry cluster consists primarily of firms producing surgical, medical, dental, optical, and ophthalmic devices and products as well as laboratory applications. It also includes firms conducting research and development activities. Most of the companies in this cluster consist of middle to smaller sized companies.

### ***Biotechnology and Pharmaceuticals***

The Biotech and Pharmaceuticals cluster primarily consists of research and development industries in fields related to chemical and biological technologies. This cluster also includes the manufacturing of medicinal and diagnostic substances. It generally consists of middle to smaller sized companies as well as world-renowned research institutes. This Biotech and Pharmaceuticals cluster is currently a major regional economic driver with strong job growth and funding.

Excerpted from page 5: [Traded Industry Clusters in the San Diego Region](#), SANDAG, December 2012.

## **CLEANTECH**

Carlsbad's Cleantech has approximately **26 firms<sup>9</sup>** and **623 jobs**. From 2014 to 2016, the number of Cleantech jobs **decreased by 24.4%**, but the industry's job concentration in 2016 in Carlsbad was still 4.58 times more, or 358% above the national average for the cleantech industry cluster. This decline in cleantech jobs was partially driven by the Testing Laboratories sub-sector that saw a 74% employment cut from 2014 to 2016. Average annual earnings per job in the Cleantech cluster in 2016 in Carlsbad was **\$145,068**, which is above the national average of \$122,508 for the same industry cluster. Total sales in Carlsbad for Cleantech businesses were over \$172 million and 94% of these sales were out-of-region sales. Lastly, the total gross regional product generated by this industry cluster was nearly \$114 million.

### **Cleantech**

This cluster includes firms that are engaged in renewable energy, energy efficiency, and energy storage.

**2016 Employment:**  
**2,997**

**Current**  
**Establishments:**  
**26**

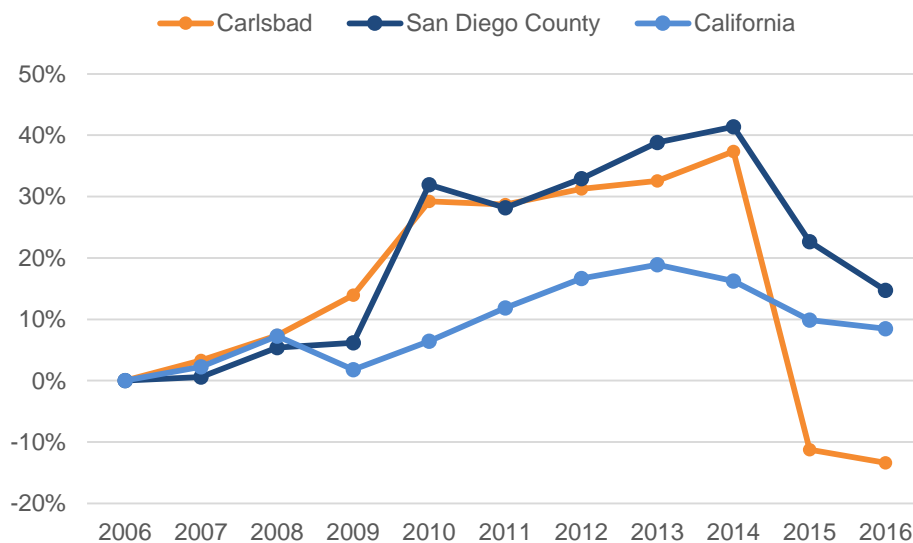
**Change over the Last 2 Years:**  
**A 37% decline** in employment from 2014 to 2016

<sup>9</sup> Data source: City of Carlsbad Business License List.

<b><u>Average Earnings:</u></b> <b>\$145,068</b>	<b><u>Industry Concentration:</u></b> <b>Employment in Carlsbad is 4.58 times the national average</b>	
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From 2006 to 2014, cleantech jobs in Carlsbad increased by 37%, a much higher rate than the state's growth (16%) and at a similar rate as San Diego county (41%) during that same time period. In the past two years however, the number of cleantech jobs in Carlsbad dropped by 24.4%. This decline was also felt in the state and in the County, but at a less significant rate. Cleantech as a primary industry name may need to change as more businesses identify themselves in renewable energy, energy generation, energy storage, and/or energy efficiency. It is also worth noting that industry classification systems like NAICS are limited in their ability to accurately encapsulate all that would be considered cleantech.

**Figure 15: Cleantech Employment % Change Overtime**



Due to the move toward more renewable energy products and services, this industry cluster has evolved from the Environmental Technology to the Cleantech industry cluster. Industries included in this cluster perform processes such as industrial products and semiconductor manufacturing (for solar panels); research and development; testing; and industrial and instrument manufacturing, as well as design, environmental, and technical consulting services. Firms included in this cluster specialize in energy efficiency (e.g., battery technologies, solar panels and related products, fuel efficient automobiles, and testing equipment); clean energy generation (e.g., solar engineering, management and consulting services, and biofuels/biodiesel); and energy storage (e.g., battery technologies, biomass, biofuels, and smart electricity).

Excerpted from page 6: *Traded Industry Clusters in the San Diego Region*, SANDAG, December 2012.

## INFORMATION AND COMMUNICATIONS TECHNOLOGIES (ICT)

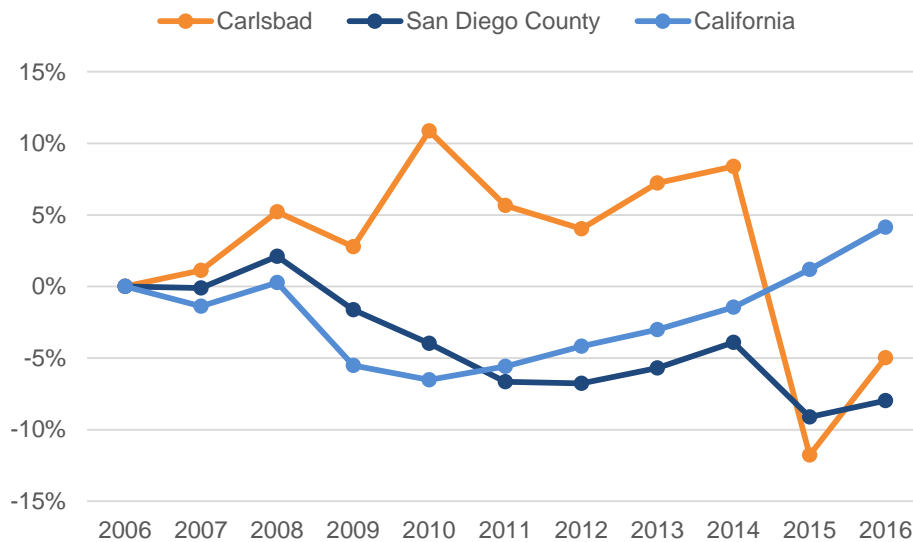
The Information and Communications Technologies (ICT) cluster represents a valuable employer with **261 firms**<sup>10</sup> and **7,627 jobs** in Carlsbad. The number of jobs represents a 2.5% decline from 2014. Nonetheless, the number of ICT jobs in Carlsbad is still 259% above the national average, or a regional concentration of 3.59. The average annual earnings per job in this cluster is approximately **\$137,704**, which is above the \$124,758 national average. Total sales for ICT businesses were over \$4 billion and 96% of these sales were out-of-region. Lastly, total gross regional product generated by ICT businesses was over \$2.56 billion.

<b>Information &amp; Communications Technologies</b> This cluster includes communications, computer and electronics, and software industries.		
<b><u>2016 Employment:</u></b> <b>7,627</b>	<b><u>Current Establishments:</u></b> <b>261</b>	<b><u>Change over the Last 2 Years:</u></b> <b>2.5% decline</b> in employment from 2014 to 2016
<b><u>Average Earnings:</u></b> <b>\$137,704</b>	<b><u>Industry Concentration:</u></b> Employment in Carlsbad is <b>3.59 times</b> the national average	

<sup>10</sup> Data source: City of Carlsbad Business License List.

The graph below shows the volatile and decreasing employment trend in the ICT industry cluster in Carlsbad. In California, ICT employment has grown since 2010 and in San Diego County it has slowly decreased since 2006. In Carlsbad, ICT employment increased from 2006 to 2014, it dropped significantly in 2015, and in the last year it has increased by 8%.

**Figure 16: ICT Employment % Change Overtime**



The ICT industry cluster includes communications, computer and electronics, and software industries. These industries, reported separately in previous cluster reports, have strong interconnections resulting in the emergence of the new ICT cluster. Firms in this cluster specialize in manufacturing radio and television broadcasting and wireless communication equipment, audio and video equipment, semiconductors and associated products, computer and electronic components, and other communications equipment manufacturing. Likewise, many service-related industries support this cluster including engineering, custom computer programming, and software. Many companies in this cluster work on government and defense contracts as well as private commercial projects. Although this cluster contains many large globally recognized communications companies, it also includes a large number of smaller companies.

Excerpted from page 8: [Traded Industry Clusters in the San Diego Region](#), SANDAG, December 2012.

### Important ICT Segments in Carlsbad

Two important segments within the ICT cluster are Cyber security (NAICS 541511) and Video Gaming (NAICS 511210)<sup>11</sup>. A total of **83 companies**<sup>12</sup> in Carlsbad provide a approximately **1,014 local jobs** and with an industry jobs multiplier of 1.1 and 1.2 respectively. These two ICT segments are responsible for a total of 1,014 jobs in Carlsbad.

Table 2: Important ICT Segments in Carlsbad: Cyber Security and Video Gaming

ICT Cluster Segment	2016 Jobs	2014 Jobs	2014 - 2016 % Change	Current Total Earnings	Regional Concentration	Number of Companies in Carlsbad	2016 % Exported Sales
Cyber Security	696	646	8%	\$124,675	1.50	68	86%
Video Gaming	318	326	(2%)	\$184,221	1.68	15	97%
<b>TOTAL</b>	<b>1,014</b>	<b>972</b>	<b>4%</b>				

### HOSPITALITY AND TOURISM

Carlsbad's Hospitality and Tourism cluster provides the largest number of jobs of the five Carlsbad specialized industry clusters that were examined and it is also the only industry cluster that saw a growth in employment since 2014. Hospitality and Tourism has approximately **353 firms**<sup>13</sup> and **13,331 jobs** in Carlsbad. The number of jobs increased by 7.4% from 2014 to 2016 and this job concentration in Carlsbad is 1.68, meaning that the number of Hospitality and Tourism jobs in Carlsbad is 68% above the national average for the same industry cluster.

The average annual earnings per job in Hospitality and Tourism is approximately **\$29,949**, or 6% above the national average of \$28,380. Total sales in Carlsbad in 2016 were over \$1.4 billion and 95% of these sales were out-of-region sales. Lastly, total Gross Regional Product generated by Hospitality and Tourism was over \$740 million.

<sup>11</sup> One limitation of the NAICS, and one encountered in this study, is that many industries cut across NAICS categories. While some cybersecurity firms would be classified under code 541511, many firms classified with that code are not cybersecurity enterprises. Likewise, while many cyberfirms use code 541511 and many are classified under other codes. The same applies to video gaming.

<sup>12</sup> Data source: City of Carlsbad Business License List.

<sup>13</sup> Data source: City of Carlsbad Business License List.

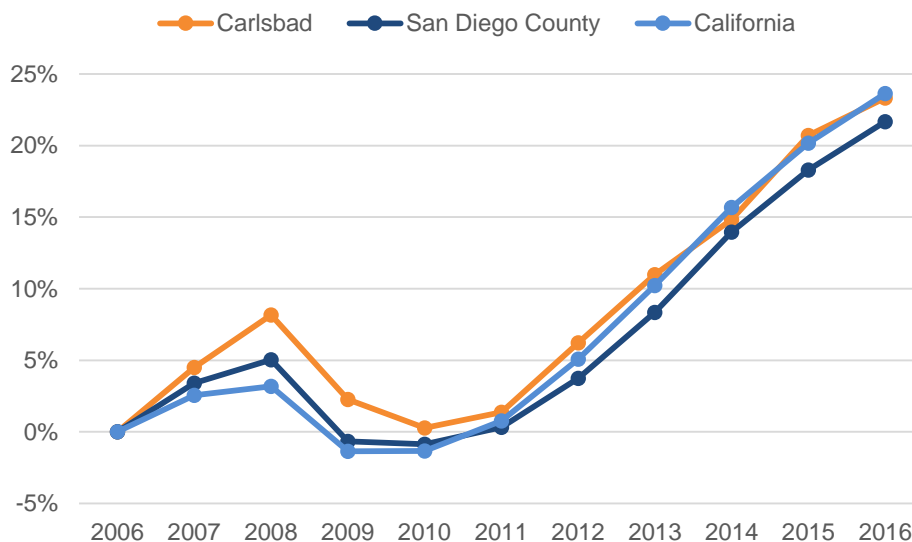
## Hospitality & Tourism

This cluster includes hotels, transportation services, and restaurants, as well as entertainment attractions such as theme parks (LEGOLAND), golf courses, and country clubs.

<b><u>2016 Employment:</u></b> <b>13,331</b>	<b><u>Current Establishments:</u></b> <b>353</b>	<b><u>Change over the Last 2 Years:</u></b> <b>7.4% growth</b> in employment from 2014 to 2016
<b><u>Average Earnings:</u></b> <b>\$29,949</b>	<b><u>Industry Concentration:</u></b> Employment in Carlsbad is <b>1.68 times</b> the national average	

As seen in the graph below, over the past ten years Carlsbad, San Diego County, and California have seen similar trend in Hospitality and Tourism jobs with a steady and steep growth since 2010.

Figure 17: Hospitality and Tourism Employment % Change Overtime



San Diego has an international reputation as a tourist and convention center destination. Visitors are not only drawn to the region's great amenities, natural resources, and weather but also popular entertainment and attractions. In previous reports, Travel and Hospitality and Entertainment and Amusement were reported as separate clusters. Because of their strong interrelationship, these clusters have merged into one Entertainment and Hospitality cluster. Local hotel, transportation services, and restaurants, which accommodate the region's visitors, account for the bulk of the travel and hospitality portion of the cluster, while world famous museums and zoos serve as major entertainment attractions. Other entertainment attractions for the region include recreational activities, such as theme parks, golf courses and country clubs, athletic events, race tracks, theatres, and numerous artists and performers. Overall, the Entertainment and Hospitality cluster brings many visitors and spending from outside the region.

Excerpted from page 6: [Traded Industry Clusters in the San Diego Region](#), SANDAG, December 2012.

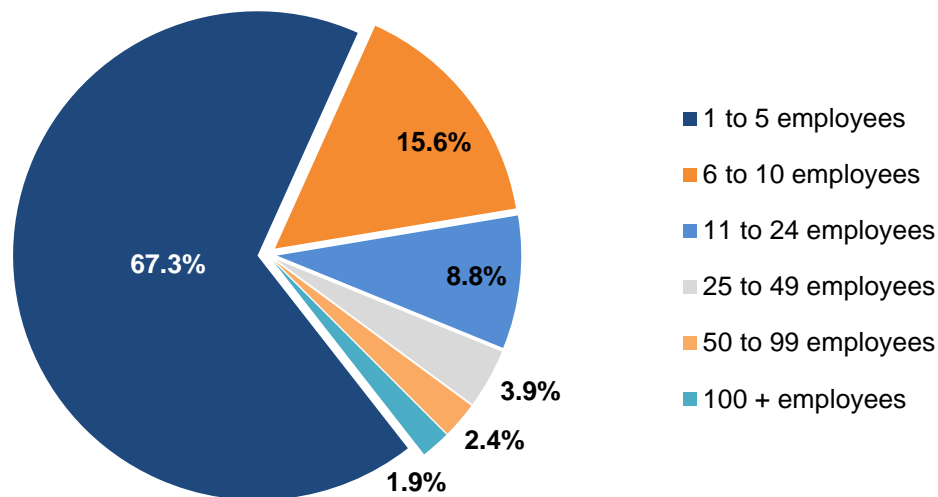
## APPENDIX A: SECONDARY DATA ON UNIVERSE OF CARLSBAD BUSINESS AND SURVEY DATA NOT PREVIOUSLY PRESENTED

### UNIVERSE OF CARLSBAD BUSINESSES

The City of Carlsbad is home to an estimated 6,985 businesses<sup>14</sup> generating approximately 79,868<sup>15</sup> with average per job earnings<sup>16</sup> of \$76,282 (higher than the national average of \$64,814). The employment numbers in 2016 represent a 2.1% increase from 2014 and a 6.2% increase from 2012.

A little over eight out of ten businesses within Carlsbad (82.9%) are small, with ten or fewer employees. However, compared to the state of California as a whole, Carlsbad has a relatively larger portion of businesses that are either medium-sized (11 to 24 employees) or large (25+ employees).

Figure 18: Secondary Data – City of Carlsbad Size of Businesses



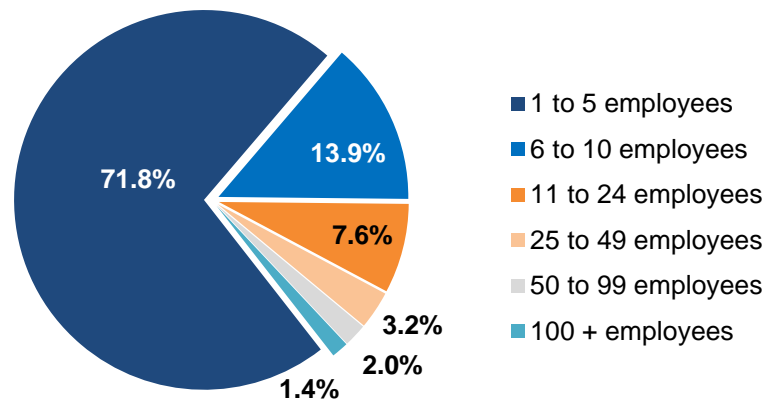
<sup>14</sup> Source: InfoUSA.

<sup>15</sup> Source: EMSI QCEW and non-QCEW Employment 2017.2

<sup>16</sup> Earnings include wages, salaries, profits, benefits, and other compensation.



Figure 19: Secondary Data – California Size of Businesses



When factoring the number of jobs<sup>17</sup> in 2016, the industries that employ the most people in Carlsbad are manufacturing (NAICS 31) with 13,262 jobs, followed by accommodation and food services (NAICS 72, 9,910 jobs), retail trade (NAICS 44, 9,012 jobs), and professional, scientific, and technical services (NAICS 54, 8,569 jobs)<sup>18</sup>.

#### ADDITIONAL SURVEY DATA

This section presents data collected from survey respondents that were not presented within the body of the report.

Please refer to Appendix C for a complete breakdown of the survey questions, including the demographic profile of respondents (age, gender, city of residence).

#### *Carlsbad Number of Locations*

All firms surveyed have at least one business location in Carlsbad and 10.5% have additional business locations in nearby cities of Oceanside, Vista, San Marcos, or Escondido. Half of the companies (50%) that responded to the survey question started in Carlsbad, 42% relocated, and 8% added an additional location in Carlsbad<sup>19</sup>. Lastly, 19% of the surveyed firms classify themselves as being in the technology field and 9% conduct manufacturing at their Carlsbad location.

<sup>17</sup> Data sources: InfoUSA for number of businesses and EMSI for number of jobs.

<sup>18</sup> Source: EMSI QCEW and non-QCEW Employment 2017.2

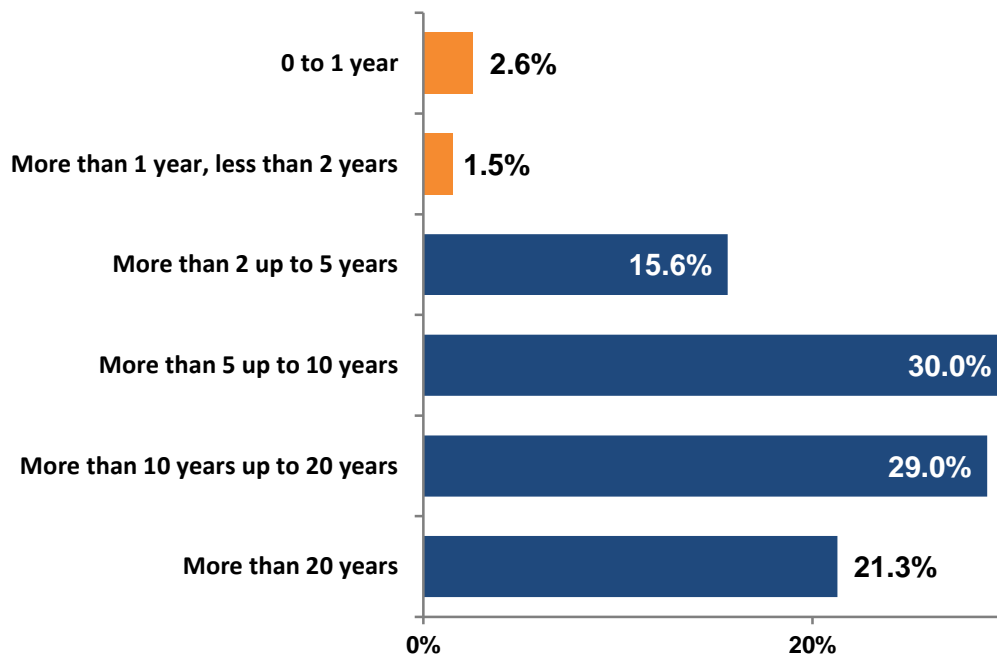
<sup>19</sup> The sample size for this question is very small since only 11 respondents answered this question. As such, it is not possible to correlate this question with another one.

### ***Number of Years Located in Carlsbad***

Most companies surveyed (50.3%) have been in Carlsbad for 10 years or more, for an average of 13.92 years. The companies that have been in Carlsbad for 2 to 5 years are more likely to respond they will increase the number of employees in the next 12 months (39%) or they have grown in the past 3 years (49%), than those that have been in Carlsbad for 10 to 20 years (16% and 22%, respectively).

Companies that have been in Carlsbad for more than 20 years are more likely to point out the Quality of Life in Carlsbad as the main reason as to why they located in Carlsbad (33%), as compared to those who moved because the Founders Lived in Carlsbad (17%).

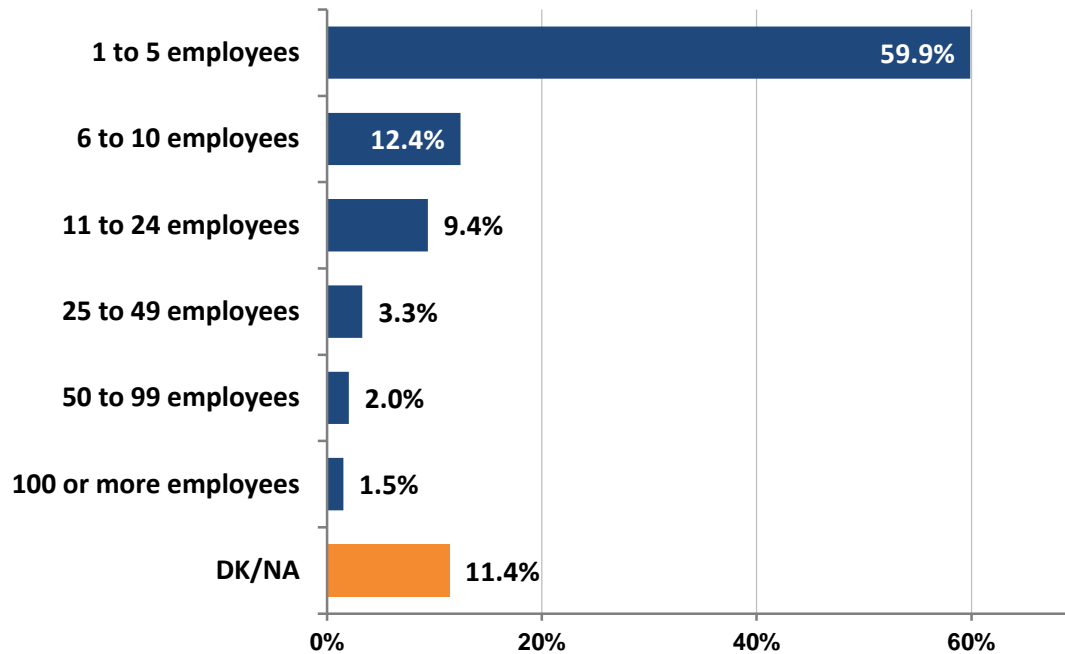
**Figure 20: Number of Years Located in Carlsbad**



### Number of Employees at Carlsbad Location(s)

Seven out of ten firms surveyed have 10 or fewer employees (72%). The average number of employees at their Carlsbad location(s) is 8.78 and the median is 2.00. According to secondary data<sup>20</sup>, the average number of employees for businesses located in Carlsbad is 14 and the median is 3.

Figure 21: Number of Employees at Carlsbad Location(s)

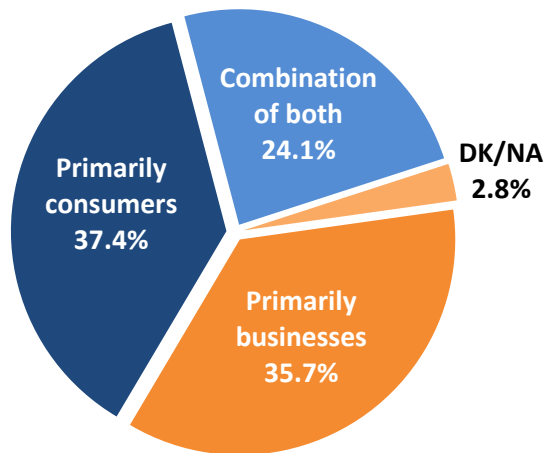


<sup>20</sup> Data source: InfoUSA.

### ***Primary Focus of Business***

Thirty-seven percent of the Carlsbad businesses surveyed are primarily focused on serving consumers directly, while approximately 36% are primarily focused on serving other businesses and 24% serve a combination of both businesses and consumers.

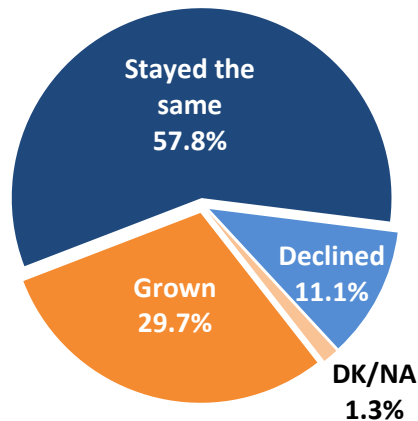
**Figure 22: Primary Focus of Business**



### Change in Employment over the Past Three Years

Just under a third (29.7%) of surveyed businesses grew over the past three years, 58% maintained employment levels at their Carlsbad location(s), and 11% shrunk. More firms in the Hospitality and Tourism industry reported having grown in the past three years (57%) than those firms in the Action Sports (33%), Life Sciences (25%), and ICT (22%) industry clusters.<sup>21</sup> This aligns with the Carlsbad industry clusters analysis<sup>22</sup> in which Hospitality and Tourism was the only industry cluster experiencing employment growth (6%) from 2014 to 2016, while all the other clusters experienced a decline.

Figure 23: Change in Employment over the Past Three Years



- Firms that had been in Carlsbad for 2 to 5 years were the most likely to report having grown over the past three years (49%) compared to firms that have been here 5 to 10 years and 10 to 20 years (28% and 22%, respectively).
- Firms with one to five employees in Carlsbad were the least likely to report growth in the past three years (17%) and the most likely to report having stayed the same (71%), as compared to all the other firms.
- Firms that reported they expect to grow in the next 12 months are more likely to have grown in the past 3 years (60%) than firms who reported they expect to maintain the same number of employees in the next 12 months (20%).
- Firms that reported they expect to decrease the number of employees in the next 12 months are more likely to have declined in the past 3 years (57%) than firms that reported expecting to maintain the same number of employees in the next 12 months (9%).

<sup>21</sup> These results are not statistically significant given the small sample size for Hospitality and Tourism (n=23), Action Sports (n=6), Life Sciences (n=4), and ICT (n=18).

<sup>22</sup> Source: EMSI QCEW and non-QCEW Employment 2017.2

## APPENDIX B: SURVEY METHODOLOGY

Data compiled for this report were drawn from both primary and secondary data sources. The table below provides a brief overview of the methodology utilized for the project.

**Table 3: Overview of Project Methodology**

<b>Method</b>	Secondary data followed by a Telephone and Online Survey of Carlsbad Businesses
<b>Number of Survey Participants</b>	394 Firms in Carlsbad Completed a Web or Telephone Survey
<b>Survey Field Dates</b>	February 8 to 24, 2017
<b>Survey Universe</b>	2,567 Firms with at least 5 Employees in the City of Carlsbad
<b>Survey Margin of Error</b>	The margin of error for questions answered by all 394 respondents was +/- 4.54% at the 95% level of confidence.

### SECONDARY RESEARCH

For this study, industry clusters were defined using the North American Industry Classification System (NAICS), the system to classify establishments by type of economic activity. Table 4 displays the complete list of NAICS<sup>23</sup> used for this study for each industry cluster. If a percentage is provided next to the NAICS description, this means that not all jobs in the particular NAICS were assigned to the specific industry cluster; only the stated percentage of jobs was accounted for.

All secondary data used in this study were compiled from either InfoUSA or the Economic Modeling Specialists Inc. (EMSI) 2017.2 Class of Worker dataset for the City of Carlsbad. The EMSI Class of Worker dataset includes Quarterly Census of Employment and Wages (QCEW) employment and non-QCEW Employment provided by state and federal level data sources including the U.S. Bureau of Labor Statistics (BLS), the U.S. Census Bureau, and the Bureau of Economic Analysis (BEA).

#### *Changes from 2014*

In January of 2017, the City of Carlsbad's Economic Development Division commissioned BW Research to complete a business climate survey and update the Division's local business and industry cluster profiles. As part of the research process the Economic Development Division and BW Research (the project team) reviewed the data sources and methodology that have been used in previous studies (2012 and 2014) to determine employment and establishment metrics for each of Carlsbad's key industry

<sup>23</sup> NAICS- the structure that SANDAG and other comparable organizations use to define their regional industry clusters.

clusters. After careful examination and consideration, Economic Development Division staff and BW Research agreed that an updated methodology should be used for the 2017 study and moving forward to measure and report Carlsbad Industry Cluster establishment metrics.

### Industry Cluster Definition

Since 2014, there has been an update to the North American Industry Classification System (NAICS). As such, the definition and NAICS used for each industry cluster changed in 2017 to reflect the update. To avoid overcounting, for those NAICS that were included in more than one industry cluster, percentages were applied so that only a portion of jobs within the specific NAICS are accounted for in an industry cluster (table 4). The percentages used reflect what has been previously done by SANDAG.

### Business Establishments

In previous studies (2012 and 2014), the project team built and updated a database of businesses for each industry cluster within the City of Carlsbad. The database started with firms that were identified within a given NAICS<sup>24</sup> code, but would then be appended to include firms that staff indicated should be included in each industry cluster database, but were not defined within the given NAICS definition. For the 2017 business climate research, the project team revised that approach so that the database and establishment counts were based purely on NAICS definitions and would **only** count unique businesses and not every address they have within Carlsbad. This was agreed upon to better align Carlsbad's industry cluster reporting with processes used by SANDAG and similar regional organizations, as well as provide a process that is more replicable from year to year and to allow comparability with other regions or localities. While the new methodology will be consistent with other organizations and improve comparability, it will be a considerable change from previous studies and will limit the ability to currently compare industry cluster results over time.

Table 4: NAICS Codes Used to Define Industry Clusters

Industry Cluster	NAICS Code	NAICS Description
<b>Action Sports Manufacturing</b>	339920	Sporting and Athletic Goods Mfg.
	423910	Sporting and Recreational Goods and Supplies Merchant Wholesalers
<b>CleanTech</b>	334413	Semiconductor and Related Device Mfg. <b>(25%)</b>
	334513	Instruments and Related Products Mfg. for Measuring, Displaying, and Controlling Industrial Process Var.
	334514	Totalizing Fluid Meter and Counting Device Mfg.
	335314	Relay and Industrial Control Mfg.

<sup>24</sup> The structure that SANDAG and other comparable organizations use to define their regional industry clusters.

<b>Entertainment and Hospitality</b>	541380	Testing Laboratories <b>(10%)</b>
	541420	Industrial Design Services <b>(10%)</b>
	541620	Environmental Consulting Services
	541690	Other Scientific and Technical Consulting Services <b>(25%)</b>
	541712	Research and Development in the Physical, Engineering, and Life Sciences (except Biotech) <b>(5%)</b>
	114111	Finfish Fishing
	481111	Scheduled Passenger Air Transportation
	481211	Nonscheduled Chartered Passenger Air Transportation
	481212	Nonscheduled Chartered Freight Air Transportation
	481219	Other Nonscheduled Air Transportation
	487210	Scenic and Sightseeing Transportation, Water
	532292	Recreational Goods Rental
	711110	Theater Companies and Dinner Theaters
	711120	Dance Companies
	711130	Musical Groups and Artists
	711190	Other Performing Arts Companies
	711211	Sports Teams and Clubs
	711212	Racetracks
	711219	Other Spectator Sports
	711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities
	711320	Promoters of Performing Arts, Sports, and Similar Events without Facilities
	711410	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures
	711510	Independent Artists, Writers, and Performers
	712130	Zoos and Botanical Gardens
	713110	Amusement and Theme Parks
	713120	Amusement Arcades
	713290	Other Gambling Industries
	713910	Golf Courses and Country Clubs
	713930	Marinas
	713990	All Other Amusement and Recreation Industries
	721110	Hotels (except Casino Hotels) and Motels
	722310	Food Service Contractors



	722320	Caterers
	722330	Mobile Food Services
	722410	Drinking Places (Alcoholic Beverages)
	722511	Full-Service Restaurants
	722513	Limited-Service Restaurants
	722514	Cafeterias, Grill Buffets, and Buffets
	722515	Snack and Nonalcoholic Beverage Bars
<b>Information and Communication Technologies (ICT)</b>	323120	Support Activities for Printing
	334111	Electronic Computer Manufacturing
	334112	Computer Storage Device Manufacturing
	334118	Computer Terminal and Other Computer Peripheral Equipment Mfg.
	334210	Telephone Apparatus Manufacturing
	334220	Radio and Television Broadcasting and Wireless Communications Equipment Mfg.
	334290	Other Communications Equipment Mfg.
	334310	Audio and Video Equipment Mfg.
	334412	Bare Printed Circuit Board Mfg.
	334413	Semiconductor and Related Device Manufacturing <b>(75%)</b>
	334417	Electronic Connector Mfg.
	334418	Printed Circuit Assembly (Electronic Assembly) Mfg.
	334510	Electromedical and Electrotherapeutic Apparatus Manufacturing
	334515	Instrument Mfg. for Measuring and Testing Electricity and Electrical Signals
	334516	Analytical Lab. Instrument Mfg.
	334517	Irradiation Apparatus Manufacturing
	334519	Other Measuring and Controlling Device Manufacturing
	334614	Software and Other Prerecorded Compact Disc, Tape, and Record Reproducing
	335311	Power, Distribution, and Specialty Transformer and Component Manufacturing
	335999	All Other Miscellaneous Electrical Equipment and Component Mfg.
	511210	Software Publishers
	512110	Motion Picture and Video Production
	512191	Teleproduction and Other Postproduction Services
	517110	Wired Telecommunication Carriers

	517210	Wireless Telecommunications Carriers (except Satellite)
	517410	Satellite Telecommunications
	517911	Telecommunications Resellers
	517919	All Other Telecommunications
	541330	Engineering Services
	541380	Testing Laboratories <b>(35%)</b>
	541511	Custom Computer Programming Services
	541712	Research and Development in Physical, Engineering, and Life Sciences (except Biotech) <b>(20%)</b>
<b>Life Sciences</b>	112000	Animal Production and Aquaculture
	325120	Industrial Gas Mfg.
	325411	Medicinal and Botanical Mfg
	325412	Pharmaceutical Preparation Mfg
	325413	In-Vitro Diagnostic Substance Mfg.
	325414	Biological Product (except Diagnostic) Mfg.
	333314	Optical Instrument and Lens Mfg.
	339112	Surgical and Medical Instrument Mfg.
	339113	Surgical Appliance and Supplies Mfg.
	339114	Dental Equipment and Supplies Mfg.
	339115	Ophthalmic Goods Mfg.
	339116	Dental Laboratories
	423450	Medical, Dental, and Hospital Equipment Supplies Merchant Wholesalers Laboratories
	541380	Testing Laboratories <b>(20%)</b>
	541711	Research and Development in Biotechnology
	541712	Research and Development in the Physical, Engineering, and Life Sciences (except Biotech) <b>(35%)</b>
	621511	Medical Laboratories
	811219	Other Electronic and Precision Equipment Repair and Maintenance

## PRIMARY RESEARCH

A telephone and web survey of 394 Carlsbad employers was conducted as part of this study.

### *Survey Design*

Through an iterative process, BW Research worked closely with the City of Carlsbad's Economic Development Division to develop a survey instrument that met all the research objectives of the study. In developing the survey instrument, BW Research utilized techniques to overcome known biases in survey research and minimize potential sources of measurement error within the survey.

### *Sampling Method*

A database of 2,567 Carlsbad firms was developed from SalesGenie (InfoUSA) and a previous database of Carlsbad businesses. That database was then supplemented with firms and contact information provided by the City of Carlsbad and finally reviewed and refined to ensure it incorporated Carlsbad employers, stratified by size and industry. The sampling plan was based on a stratified universe of businesses based on size and industry within the city.

### *Data Collection*

Prior to beginning data collection, BW Research conducted interviewer training and also pre-tested the survey instrument to ensure that all words and questions were easily understood by the respondents. Telephone interviews were generally conducted from 9:00am to 4:30pm Monday through Friday. The data collection period was February 8 to 24, 2017.

A web version of the survey was also developed and businesses with an email address within the city were sent an online invitation. Carlsbad businesses that were called over the telephone and indicated a preference to complete the survey online, were also sent an online invitation to the survey. Approximately 500 Carlsbad employers were also mailed a letter, making them aware of the survey and given an online URL to complete the survey on the web, before being called.

### *A Note about Margin of Error and Analysis of Sub-Groups*

The overall margin of error for the survey, at the 95 percent level of confidence, is +/- 4.54 percent for questions answered by all 394 respondents. It is important to note that questions asked of smaller groups of respondents (such as questions that were only asked to firms based on their previous responses) as well as results presented separately for industry clusters will have a margin of error greater than +/- 4.54 percent, with the exact margin of error dependent on the number of respondents in each sub-group.

## APPENDIX C: SURVEY TOPLINES (N=394)

### Introduction:

#### [24 employees or less]

Hello, my name is \_\_\_\_\_. May I please speak to a manager or owner at [firm name]?

#### [25 employees or more]

Hello, my name is \_\_\_\_\_. May I please speak to a manager or a decision maker who is involved in strategic planning or human resources at [firm name]?

I am calling on behalf of BW Research, an independent research organization working on behalf of the City of Carlsbad. **[IF LETTER SENT]** *I'm following up on a letter sent from Christina Vincent, the Economic Development Manager for the City of Carlsbad asking you to participate in a brief survey.*

The survey will take approximately 10 minutes of your time and will help the City of Carlsbad to better serve those businesses located within Carlsbad.

**(If needed):** This survey has been commissioned by the City of Carlsbad, which is committed to supporting the businesses in the City.

**(If needed):** The survey is being conducted by BW Research, an independent research organization, and should take approximately ten minutes of your time.

**(If needed):** Your individual responses will **not** be published; only aggregate information will be used in the reporting of the survey results.

.....

### Screenener Questions

A. Are you involved or leading the strategic planning, hiring or location decisions at your firm?

100.0%	Yes
0.0%	No
0.0%	Not sure

B. Is your business located in Carlsbad?

100.0%	Yes
0.0%	No
0.0%	Not sure

[BUILD CHECK – SD SHOULD NOT BE GREATER THAN SC – IF IT IS RE ASK]

- C. Do you have any additional business locations in nearby cities of Oceanside, Vista, San Marcos or Escondido?

<b>10.5%</b>	<b>Yes</b>
<b>89.3%</b>	<b>No</b>
<b>0.3%</b>	<b>Not sure</b>

**[PART 1 – PROFILE & GROWTH EXPECTATIONS]**

1. How many years have you had a business location in Carlsbad?

<b>2.6%</b>	<b>0 to 1 year</b>
<b>1.5%</b>	<b>More than 1 year, less than 2 years</b>
<b>15.6%</b>	<b>more than 2 up to 5 years</b>
<b>30.0%</b>	<b>more than 5 up to 10 years</b>
<b>29.0%</b>	<b>more than 10 years up to 20 years</b>
<b>21.3%</b>	<b>more than 20 years</b>

[If Q1 = 1, ASK Q2, OTHERWISE SKIP]

2. Did you relocate, add an additional location, or start your business in Carlsbad

<b>41.7%</b>	<b>Relocate</b>
<b>8.3%</b>	<b>Add additional location</b>
<b>50.0%</b>	<b>Started in Carlsbad</b>

Next, I want to ask a few quick questions about your Carlsbad business location(s).

3. What were the main reasons your company located in Carlsbad? [CHECK ALL THAT APPLY - DO NOT READ OPTIONS]

<b>52.1%</b>	<b>Founders lived here</b>
<b>34.8%</b>	<b>Quality of life in Carlsbad</b>
<b>28.4%</b>	<b>Proximity to customers, collaborators, and vendors</b>
<b>6.7%</b>	<b>Spun-off another company that was already here</b>
<b>6.4%</b>	<b>Proximity to skilled workers/workforce</b>
<b>1.8%</b>	<b>Connection to university or related institutions (specify:)</b>
<b>16.0%</b>	<b>Other</b>
<b>3.4%</b>	<b>DK/NA</b>

4. What industry or industries best describes the work that your firm is involved in and connected to? [DO NOT READ - ALLOW MORE THAN ONE RESPONSE]

<b>28.7%</b>	<b>Professional or Business Services</b>
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<b>15.2%</b>	<b>Retail or Wholesale Trade</b>
<b>11.1%</b>	<b>Healthcare</b>
<b>11.1%</b>	<b>Finance, Insurance, Real Estate, or Property Management</b>
<b>8.5%</b>	<b>Construction or Building and Design</b>
<b>7.0%</b>	<b>Technology or ICT</b>
<b>6.7%</b>	<b>Manufacturing</b>
<b>5.2%</b>	<b>Hospitality</b>
<b>3.6%</b>	<b>Medical devices</b>
<b>3.1%</b>	<b>Action Sports</b>
<b>3.1%</b>	<b>Public Sector or Education</b>
<b>3.1%</b>	<b>Research and Development</b>
<b>2.6%</b>	<b>Life Sciences</b>
<b>2.1%</b>	<b>Tourism</b>
<b>1.0%</b>	<b>Energy or Utilities</b>
<b>0.5%</b>	<b>Robotics</b>
<b>20.4%</b>	<b>Other</b>
<b>0.3%</b>	<b>Don't know/ Refused</b>

[IF Q4 = 7 – 12, SKIP Q5]

5. Is your firm involved in work related to Life Sciences, Medical Devices, Cleantech, Robotics, or Action Sports? [ALLOW MORE THAN ONE RESPONSE]

<b>92.4%</b>	<b>No</b>
<b>3.2%</b>	<b>Life Sciences</b>
<b>2.9%</b>	<b>Medical Devices</b>
<b>1.8%</b>	<b>Action Sports</b>
<b>1.5%</b>	<b>Cleantech</b>
<b>0.9%</b>	<b>Robotics</b>
<b>0.6%</b>	<b>DK/NA</b>

6. Would you classify your firm in the technology arena?

<b>18.4%</b>	<b>Yes</b>
<b>80.3%</b>	<b>No</b>
<b>1.3%</b>	<b>DK/NA</b>

7. Do you conduct any manufacturing at your Carlsbad location(s)?

<b>9.1%</b>	<b>Yes</b>
<b>90.9%</b>	<b>No</b>

I'd like to ask a few general questions about your employees at your Carlsbad location(s).

8. Including all full-time and part-time employees, how many **permanent and temporary** employees work at your Carlsbad location(s)? (Do not accept 0 as a response)

- 1 Record # of employees \_\_\_\_\_  
2 (DON'T READ) DK/NA

9. If you currently have [TAKE Q3 #] **permanent and temporary** employees at your location(s), how many more or how many fewer employees do you expect to have at your Carlsbad location(s) 12 months from now?

<b>21.8%</b>	<b>More</b>
<b>1.9%</b>	<b>Less</b>
<b>67.4%</b>	<b>Same number of employees</b>
<b>8.9%</b>	<b>DK/NA</b>

[If amount differs by 10% or more in either direction, ask: ]

Just to confirm, you currently have \_\_\_\_\_ employees and you expect to have \_\_\_\_\_ (more/less) employees, for a total of \_\_\_\_\_ employees 12 months from now.

10. Over the last three years, has your company grown, declined or stayed about the same, in terms of employment at your Carlsbad location(s).

<b>29.7%</b>	<b>Grown</b>
<b>57.8%</b>	<b>Stayed the same</b>
<b>11.1%</b>	<b>Declined</b>
<b>1.3%</b>	<b>DK/NA</b>

#### **[PART 2 – Business Climate Assessment]**

Now, I would like to ask you about the general business climate in the City of Carlsbad.

11. Overall how would you rate the City of Carlsbad as a place to do business?

<b>31.6%</b>	<b>Excellent</b>
<b>47.2%</b>	<b>Good</b>
<b>12.7%</b>	<b>Fair</b>
<b>3.4%</b>	<b>Poor</b>
<b>1.6%</b>	<b>Very poor</b>
<b>3.4%</b>	<b>DK/NA</b>

12. Overall, do you feel the business climate in Carlsbad is getting better, getting worse or staying about the same?

**26.8%**            **Getting better**  
**9.3%**            **Getting worse**  
**56.8%**           **Staying about the same**  
**7.2%**            **DK/NA**

13. Have you heard, read or seen anything on the City of Carlsbad's program to attract talent – Life In Action?

**8.2%**            **Yes**  
**87.3%**           **No**  
**4.5%**            **DK/NA**

Next I would like to ask specifically about local government and the City of Carlsbad.

14. Overall, how confident are you in the Carlsbad city government to make decisions that positively affect the local business climate?

**16.2%**           **Very confident**  
**47.9%**           **Somewhat confident**  
**13.3%**           **Somewhat unconfident**  
**9.3%**            **Very unconfident**  
**13.3%**           **DK/NA**

15. Please tell me how satisfied your company is with the following issues and attributes regarding Carlsbad's business climate.

Is your company satisfied, dissatisfied, or neither satisfied nor dissatisfied with Carlsbad's: \_\_\_\_\_? (GET ANSWER AND THEN ASK:) Would that be very (satisfied/dissatisfied) or somewhat (satisfied/dissatisfied)?

**RANDOMIZE [BUT KEEP Q15e AND Q15j NEXT TO EACH OTHER]**

	<b>Very satisfied</b>	<b>Somewhat satisfied</b>	<b>Neither sat nor dissat</b>	<b>Somewhat dissat</b>	<b>Very dissat</b>	<b>DK/NA</b>
<b>Access to capital</b>	11.8%	21.2%	27.5%	2.5%	2.8%	34.2%
<b>Quality of local streets and roads</b>	30.6%	38.3%	12.4%	10.2%	4.7%	3.9%
<b>Ability to get employees to and from work</b>	21.5%	27.3%	22.9%	7.2%	3.0%	18.2%
<b>Ability to get products to and from your Carlsbad business location</b>	30.6%	24.5%	20.4%	1.7%	0.8%	22.0%
<b>Reliability of data services</b>	15.2%	24.2%	20.9%	4.1%	2.8%	32.8%



<b>Access to clients and customers</b>	32.2%	32.0%	17.4%	4.7%	1.4%	12.4%
<b>Ability to recruit high skill talent</b>	14.0%	24.2%	22.9%	7.4%	2.5%	28.9%
<b>Ability to find qualified entry to mid-level employees</b>	12.4%	25.1%	22.6%	9.9%	2.5%	27.5%
<b>Access to relevant vendors and suppliers</b>	26.7%	33.3%	22.6%	1.9%	0.3%	15.2%
<b>Value of data services</b>	13.2%	24.0%	21.5%	4.4%	2.2%	34.7%
<b>Regulatory climate, including, zoning, permitting, local regulations and related issues</b>	12.7%	27.0%	23.4%	9.9%	8.3%	18.7%

\*\*\*Q15 WITH DK/NA REMOVED\*\*\*

	<b>Very satisfied</b>	<b>Somewhat satisfied</b>	<b>Neither sat nor dissat</b>	<b>Somewhat dissat</b>	<b>Very dissat</b>
<b>Access to capital (n=239)</b>	18.0%	32.2%	41.8%	3.8%	4.2%
<b>Quality of local streets and roads (n=349)</b>	31.8%	39.8%	12.9%	10.6%	4.9%
<b>Ability to get employees to and from work (n=297)</b>	26.3%	33.3%	27.9%	8.8%	3.7%
<b>Ability to get products to and from your Carlsbad business location (n=283)</b>	39.2%	31.4%	26.1%	2.1%	1.1%
<b>Reliability of data services (n=244)</b>	22.5%	36.1%	31.1%	6.1%	4.1%
<b>Access to clients and customers (n=318)</b>	36.8%	36.5%	19.8%	5.3%	1.6%
<b>Ability to recruit high skill talent (n=258)</b>	19.8%	34.1%	32.2%	10.5%	3.5%
<b>Ability to find qualified entry to mid-level employees (n=263)</b>	17.1%	34.6%	31.2%	13.7%	3.4%
<b>Access to relevant vendors and suppliers (n=308)</b>	31.5%	39.3%	26.6%	2.3%	0.3%
<b>Value of data services (n=237)</b>	20.3%	36.7%	32.9%	6.8%	3.4%
<b>Regulatory climate, including, zoning, permitting, local regulations and related issues (n=295)</b>	15.6%	33.2%	28.8%	12.2%	10.2%

16. Thinking about the people for your Carlsbad location, how much difficulty does your company have finding qualified job applicants who meet the organization's hiring standards?

<b>33.0%</b>	<b>Little to no difficulty</b>
<b>32.7%</b>	<b>Some difficulty</b>
<b>9.7%</b>	<b>Great difficulty</b>

**24.7%                      DK/NA**

**\*\*\*Q16 WITH DK/NA REMOVED (n=272)\*\*\***

**43.8%                      Little to no difficulty**

**43.4%                      Some difficulty**

**12.9%                      Great difficulty**

**[PART 3 – CUSTOMER AND SUPPLIER PROFILE]**

Before we finish I would like to ask the key industries, technologies and customers that drive your business.

17. Next, I would like to ask if your firm is primarily focused on serving other businesses, primarily focused on serving consumers directly or a combination of both businesses and consumers?

**35.7%                      Primarily businesses**

**37.4%                      Primarily consumers directly**

**24.1%                      A combination of both businesses and consumers**

**2.8%                      DK/NA**

18. Are your customers primarily local - within Carlsbad & North County, regional - within Southern California, Statewide – within California, national – within the Country, or international - outside the Country? [ALLOW MULTIPLE RESPONSES]

**44.0%                      Local - Carlsbad & North County**

**37.7%                      Regional - Within Southern California**

**19.4%                      Statewide - Within California**

**39.9%                      National - Within the United States**

**20.5%                      International - Outside the United States**

**0.6%                      DK/NA**

19. Are your suppliers and vendors primarily local - within Carlsbad & North County, regional - within Southern California, Statewide – within California, national – within the Country, or international - outside the Country? [ALLOW MULTIPLE RESPONSES]

**32.7%                      Local - Carlsbad & North County**

**26.0%                      Regional - Within Southern California**

**15.8%                      Statewide - Within California**

**38.5%                      National - Within the United States**

**13.9%                      International - Outside the United States**

**9.7%                      Do not have suppliers or vendors**

**0.6%                      DK/NA**

20. Lastly, is there anything you would like to see the City of Carlsbad offer or consider to support the businesses that we have not discussed today?

*\*\*\*Not enough responses to code question, we can provide verbatim if preferred\*\*\**

**To wrap things up, please answer the following questions.**

Age:

<b>1.3%</b>	<b>18 to 24 years old</b>
<b>5.8%</b>	<b>25 to 34 years old</b>
<b>41.6%</b>	<b>35 to 54 years old</b>
<b>29.2%</b>	<b>55 to 64 years old</b>
<b>22.1%</b>	<b>65 years or older</b>

What City do you reside in?

<b>64.9%</b>	<b>Carlsbad</b>
<b>5.6%</b>	<b>Encinitas</b>
<b>7.8%</b>	<b>Oceanside</b>
<b>2.5%</b>	<b>San Marcos</b>
<b>2.5%</b>	<b>Vista</b>
<b>0.8%</b>	<b>Solana Beach</b>
<b>3.9%</b>	<b>San Diego</b>
<b>10.0%</b>	<b>Other</b>
<b>1.9%</b>	<b>DK/NA</b>

[ASK DC IF Q15C OR Q15D = 4 or 5, OTHERWISE SKIP]

Gender:

<b>58.8%</b>	<b>Male</b>
<b>37.0%</b>	<b>Female</b>
<b>4.2%</b>	<b>Refused</b>

Would you be willing to participate in a follow-up survey about regional transportation?

<b>61.0%</b>	<b>Yes (n=25)</b>
<b>36.6%</b>	<b>No</b>
<b>2.4%</b>	<b>DK/NA</b>

Lastly, do we have your permission to provide your contact information to the City of Carlsbad, so that they may follow up on any issues or requests brought up during this survey?

<b>46.5%</b>	<b>Yes (n=167)</b>
<b>47.6%</b>	<b>No</b>
<b>5.8%</b>	<b>DK/NA</b>